

# MANUFACTURERS' RECORD.

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## Manufacturers' Record.

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RICHARD H. EDMONDS,  
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THOMAS P. GRASTY,  
General Staff Correspondent.

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### For Machinery Sellers.

Referring to a notice in the Manufacturers' Record of his purchase of a plant at Macon, Ga., Mr. E. G. Coffman, president and general manager of the Georgia Handle Co., manufacturer of plow handles, plow beams, etc., Atlanta, Ga., writes:

I find on my desk a lot of letters, catalogues, etc., from different manufacturers throughout the United States, saying that they had seen a notice of this purchase in your paper and inquiring if I was in need of machinery. I feel very much indebted to you for this notice on your part, and it has brought me in contact with a number of manufacturers of machinery that I did not know.

In a letter to the Manufacturers' Record Hon. Alfred Moore Waddell of Wilmington, N. C., alluding to the preparations for an expenditure of \$25,000 in State improvements in that city, says:

A notice already given in the Manufacturers' Record has resulted in a flood of letters from manufacturers of machinery.

### Union of Manufacturers.

Ever since its organization five years ago the National Association of Manufacturers has made itself a marked influence in those agencies which are working to promote the interests of manufacturers of the United States. The little body of manufacturers who met in Cincinnati to consider the feasibility of uniting their efforts for the common good has grown into a powerful organization of about 1100 members, embracing the largest manufacturing interests in the country. It is natural that the largest growth and greatest strength of this organization should have been in the East and Middle West, where the manufacturing interests are more numerous and of greater magnitude than in any other part of the country, but this organization is not in any respect local or sectional. It was founded as a national organization, designed to work for such purposes as would benefit the industrial interests of the entire country, and this policy has been consistently and honestly followed.

It is much to be regretted that the South, while enjoying in common with all other parts of the country whatever good results may have followed the work of this association, has never been an active participant in its work, and has had but a very small repre-

sentation in the membership of the association. A few of the leading men among the Southern manufacturers have been members of the organization since its beginning, but the number has not grown in proportion to the magnitude of Southern industrial interests. There is reason for this, however, in the business conditions which have prevailed almost continuously since the association was organized until the beginning of the last year. The prosperous condition of the South at present, however, makes it opportune for the association to invite larger co-operation and more active participation on the part of the Southern manufacturers, and it is to be hoped that the special efforts which are now being made to interest the Southern manufacturers in the work of this organization will result in large accessions to its membership from the South.

In every phase of the work that is being done by the National Association of Manufacturers the South has a vital interest. In the matter of foreign trade, the promotion of which has formed a very large feature of the work of the association, Southern industries should be more interested than any other part of the country, for it is a well-known fact that the leading industries of the South, cotton, iron and lumber manufacture and coal mining, are best situated to enter foreign markets under advantageous conditions. To those industries the National Association of Manufacturers offers valuable service in the extension of their trade abroad.

The legislative measures which are supported by the association are all matters of national importance, and affect the South in common with every other part of the country. The construction of the Nicaragua canal, the restoration of our merchant shipping, the creation of a Department of Commerce and Industry, the establishment of a national uniform freight classification, the framing of treaties of commercial reciprocity with other nations, the extension of the parcels post system both at home and abroad, are all matters which appeal to the intelligent business man everywhere, regardless of location or the nature of their business. The manufacturers of the South owe their support to these measures, and in no way can this support be more effectively rendered than by a union of efforts in the National Association of Manufacturers.

The association derives its support wholly from the annual dues of its members. It seeks no government, State or municipal aid, and consequently is unhampered in its consideration of legislative measures. Such an organization as this possesses vast possibilities for benefiting the industrial interests of the country, but these possibilities depend wholly upon the extent to which the manufacturers give it their support and co-operation. What has been done with a membership of 1100 indicates what an enormous power

for good such an organization could wield with an enrollment of 5000 of the most progressive manufacturers in the country, and it would seem, from the character of the work and the eminently practical manner in which it has been carried on, that such a membership should easily be practicable if the manufacturers themselves would unite their efforts in extending the organization.

### American Cotton Mills.

A bill providing for a constitutional amendment permitting Congress to regulate the hours of labor in the country, or, in other words, embodying the spirit attributed a few years ago to the Chicago platform, permitting an interference by the national government with the right of private contract, has again been introduced by representatives of the cotton-mill industry in Massachusetts. It has gone to the same committee with whom reposes a similar bill introduced in the last Congress. The bill is framed in the supposed interest of the Northern mill operatives. Concurrently, as was to be expected, the Fall River Herald relapses into its discussion of the menace of Northern cotton mills by the growth of Southern ones. It announces that fears regarding the cotton industry in New England "were shared by all classes, by labor as well as capital, and operatives sent their representatives to the Southern States to organize the employees of that section in order to equalize conditions." It falls, however, to state that when a sub-committee of the so-called industrial commission went to New England to get official facts about the conditions of the industry they failed to meet anybody qualified to give them the information desired. It adds:

Of course, if the relations between supply and demand are so balanced that the North can dispose of her product to advantage after the South has sold her output, there is no danger. But this problem relating to competition resolves itself into a business proposition pure and simple, and there is nothing very complex about it. It goes without saying that the cloth which the South manufactures is not manufactured in New England or Old England. That is, there is a certain number of spindles turning in the South which would be revolving in Fall River and Providence or in Manchester, England, were the South not a rival, and every one of these spindles counts. They can't be left out of the discussion. And if New England is nearer the cotton fields than Old England, the Southern States are nearer still and must be reckoned with when it comes to computing distances. If the North cannot unload her output until the South has unloaded hers at cheaper rates, it is clear that there is danger ahead for the North. If we can safely proceed on the comfortable assumption that the increased consumption of the world will always take care of the increase of the number of spindles North and South, well and good. But if we can't, and the South can play cards which the North doesn't hold, it follows that the North must exert herself to overcome the advantages which the South enjoys. That is something which the North with her experience and enterprise can probably do, but it isn't as easy as some writers make it appear on paper.

It has long since become a hopeless task to attempt to prevent the circula-

tion in New England of the erroneous idea that the labor question is at the bottom of the advantages possessed by the South over the North as a cotton manufacturer. The Southern-labor question has for half a century been a favorite device to keep in line for divers purposes Northern labor, or to allay their discontent with conditions in which the South has no concern. Force of habit is stronger, though, than obvious facts. If, however, the Fall River Herald should lay aside its microscope and view the situation through a telescope it might find basis for at least a faint ray of hope for New England. It will, perhaps, find a shred of encouragement in the broadminded paper of Mr. D. A. Tompkins of Charlotte, N. C., read at the last meeting of the New England Cotton Manufacturers' Association. If the Herald has not time to read the whole paper it may find comfort in the following extracts:

Here in America our manufacturing interests have grown until we now make more goods than our domestic markets will take. I feel that it is a good thing for us to get together, extend our acquaintance with each other and begin to study ways and means of finding markets outside of America for our increasing production of goods.

On many other questions we have been led to consider ourselves widely separated territorially, and on account of these we have fallen into much error of thought as to our relations. The spinners and weavers of America are really all neighbors.

In spite of nervous prejudices we are neighbors—people of common blood and having common interests. We ought to be neighborly, meet oftener, and instead of contending over our local markets, study together and promote our common interests.

What's the use of our squabbling over half a loaf and calling each other names, when there is a whole loaf and to spare if we will stop squabbling long enough to see it.

Why contending and fight for American trade only when the trade of the world is open to us if we will only reach out for it.

These suggestions are in sharp contrast with the narrow-mindedness which has been unable, after nearly forty years, to overcome sectionalism, and which, substituting industrialism for politics, sees in the vigorous growth of the South, in spite of unparalleled obstacles, only a menace of the North.

They furnish no material to persons who think and write upon the theory that one part of the country can only progress at the expense of another. They, however, suggest means whereby the increased consumption of cotton by the world will take care of the increase in the number of American spindles.

Representative men of the South like Mr. Tompkins, particularly those interested in cotton manufacturing, have displayed signally their purpose to unite with their progressive fellows in other parts of the country to further measures for the benefit of the industry and commerce of the whole country and of the cotton trade. Such action as that contemplated in the proposed labor amendment to the constitution is not likely to develop the spirit so hardy at present at the South. Congress will never be given the right to interfere with labor conditions in one part of the country for the benefit of manufactur-



ers in another as long as the government of the United States preserves its quasi-constitutional form. Results of the attempt of the kind about forty years ago should be sufficient warning against other efforts in the same direction. Mr. Lovering of Massachusetts ought to have a half-hour's quiet chat with Mr. Tompkins of North Carolina. It is believed the latter would be able to persuade the former that the solution of New England mill difficulties is to be had, not in a constitutional amendment aimed against the South, but in harmonious action by South and North in promoting the foreign trade of the whole country.

### Not Against New York.

Meetings are still being held in New York for the purpose of instituting measures to preserve the commercial supremacy of that port. At a meeting at the Chamber of Commerce last week resolutions were adopted of a decidedly pessimistic tone. It was asserted as authenticated facts that "the seemingly impregnable commerce of New York is now assailed on the south by the fiercely competing ports of Port Arthur, Galveston, New Orleans, Pensacola, Charleston, Norfolk, Newport News, Baltimore and Philadelphia, and on the north by Boston, Portland and St. John, and last, but not least, the Canadian port of Montreal," and it was resolved that port charges ought to be lower, and that there ought to be better terminal facilities at New York. Plans were suggested whereby New York would doubtless become "the cheapest and most advantageous port on this continent to export and import, as formerly, the bulk of the nation's vast productions, and could not fail to redound to the estimable advantage of the farming, laboring, commercial, manufacturing, financial and realty interests of the State and port of New York."

There is a basis for complaint about New York's export trade. Though the exportations from this country of corn, wheat and flour have increased wonderfully, there has been a tendency for them to drift from New York. According to an estimate of the bureau of statistics, the exports of corn from New York increased during the past six years from 13,500,000 to 40,000,000 bushels, from Boston 5,500,000 to 17,500,000, from Philadelphia 4,000,000 to 20,000,000, from Baltimore 7,500,000 to 46,000,000, from New Orleans 6,500,000 to 22,000,000, while from Newport News and Galveston, for which the record begins with 1895, 4,500,000 to 14,000,000 and 1,250,000 to 7,000,000, respectively. In wheat the fact that the total exports have diminished by more than 48,000,000 bushels between 1898 and 1899 is responsible largely for the fact that New York, Philadelphia, Baltimore and New Orleans exported in 1899 less than they did in 1893, but at the same time the exports from Boston grew from 3,900,000 to 11,500,000, and at Galveston, where, prior to 1896, they were small, they have grown from 3,400,000 to 15,700,000 bushels. The exports of flour from New York fell off from 6,400,000 barrels in 1893 to 4,700,000 in 1899, with Philadelphia, Newport News, Norfolk, New Orleans and Galveston showing more or less advances.

The premise of the action by the New York meeting, however, "the bustling activity on the part of New York's energetic competitors to wrest from this port and State the bulk of the nation's export and import commerce, which has made New York first in pop-

ulation and wealth," is a mistaken one. New York should not judge others by New York. Careful investigation would discover the fact that other ports of the country have no particular animus against New York's natural development. They are not inspired by the New York spirit, which endeavors to gain, in one way or another, the whole thing, whether or not it is capable of rendering due service. They are doing all in their power to gain their share of the country's commerce, which, with the steady development of railroad construction following the natural trend of trade, has come to flow in their direction. Occasionally they may be at rivalry one with another, but there is no deep-laid scheme to injure New York.

That city must come to recognize changed conditions in the country. Its very success should lead it to appreciate the desire of other cities to enjoy some of the benefits which have, under untoward circumstances, been its exclusively. There is enough in the expanding commerce of this country for a great many cities to thrive upon and still permit New York to have a decent living, provided the latter takes practical steps, suggested in the conclusion of the action of the meeting at the Chamber of Commerce, to provide terminal conditions at the port in line with modern methods.

### For Cotton-Growers.

From Montgomery, Ala., comes the statement that there are indications of an increase in the cotton acreage in Alabama this year. Such a statement was not entirely unexpected. If it be true, it is an outcome of seven-cent cotton this season. If it be true, it shows that bitter experience has failed to impress its much-needed lesson. If there is any way to insure seven-cent cotton becoming an impossibility next year it is by planting cotton upon old lines, under a belief that the conditions of this year, remarkable in some respects, may not be suddenly reversed. The publication of such a rumor might be used even in an attempt to depress existing prices. Until all the cotton-raising land has been brought under cultivation a normal increase in acreage may be expected, and, in fact, it may hardly be deplored. But cotton-growers should remember that the cost of raising cotton may be greater this year than last; that the situation in the legitimate market for the staple will certainly be changed if the supply exceeds the demand, and that the surest way of inducing this phase of overproduction is by abnormally extending the acreage. The condition of cotton-growers has undoubtedly been much improved this year by the advance in the price of cotton. They should remember, though, that their general condition is marked by a balancing of poor years and good ones, and they should, instead of sinking all their gains of this year in preparations for enlarged operations, devote their energies to reducing the cost of growing their crop by rendering themselves as independent as possible for foodstuffs. They should continue and develop the good habit, acquired through adversity, of living at home.

### Needed for Texas.

Leading business men of Galveston have started a movement designed to unite all the commercial bodies of Texas and progressive citizens in advocacy of liberal and progressive legisla-

tion inviting capital to the State and in opposing all legislation likely to retard development. Commenting upon this subject Mr. Julius Runge, one of the leading citizens of Texas, is quoted by the Galveston News as follows:

There is no sort of doubt that legislation has been passed, and much legislation proposed, which causes capital to be withheld from the State, and consequently retards the progress of the State. I believe if the commercial bodies of the State would unite in presenting to our legislators the injurious features of proposed legislation, indicating to them the evil in such bills and just how the State would be damaged, the enactment of such injurious laws could be prevented. I believe the framers of the laws are in most instances sincere in their intentions, and that they mean to accomplish good for the State, but they are often mistaken and do not appreciate the harm which may result from measures having the opposite intent. I believe our lawmakers will gladly listen to the business men of the whole State, and will fairly consider the facts which may be placed before them showing the inadvisability of legislating in directions calculated to arrest the growth of our State.

## SOUTHERN PETROLEUM FIELDS.

By C. F. Z. Caracristi, Consulting Civil and Mining Engineer.

As strange as the fact may seem, the Southern States have done more to initiate American industrial history than any other section of this vastly rich country. This may be said to be the condition in the petroleum discovery in Kentucky when Mr. Samuel Stockton, in boring for salt water, "brought in" a petroleum well in Cumberland county in 1829, and in West Virginia oil was only found in commercial quantities in 1843, when a firm bought as much as two barrels of oil at a time. The Stockton well of Kentucky, however, furnished many thousands of barrels, which were lost, owing to the want of knowledge as to the commercial use of the product. This well may be said to be the first "gusher" or flowing well of which we have an authentic history in any country. Tennessee has also added to the history of oil, but neither this State nor Kentucky have added materially to the enormous petroleum industry of this country.

Out of the total production of about 57,000,000 barrels of American oil in 1899, Tennessee and Kentucky produced only 52,000 barrels. About one-half of this oil was stored in tank in Tennessee, and was the production of 1898. But the unsuccessful results of these fields are more than compensated for by the gratifying production from the newest of the American fields, that of Texas.

The Texas petroleum fields have been a great surprise to petroleum experts, and especially to the Standard Oil Co., whose representatives reported against the territory some years ago when it came on the market.

Beginning in 1889 with a production of forty-eight barrels per year, and only one well, the petroleum production has risen to 600,000 barrels in 1899, derived from 360 producing wells, with only forty "dry holes;" indeed, a most remarkable record in the oil-drilling experience of the country. This production was drained from Navarro, Nacogdoches, Bexar and Hardin counties. Of this, 580,000 barrels were illuminating oil and 20,000 barrels lubricating petroleum. The illuminating petroleum has a gravity of from 37° to 41° Braume, and gives off 76 per cent. of high-grade illuminants and 14 per cent. other oils. The petroleum contains no free sulphur, and is equal in commercial value to that of the product of the Pennsylvania field, which is the best so far discovered.

Those of us who are acquainted with the Texas field and its possibilities can-

Austin seems to be demonstrating at this very moment the necessity for such action. According to a dispatch from there the city council refuses to pass an ordinance appropriating \$22,187 with which to pay the quarterly interest, due January 1, on municipal water and light bonds; that five attempts have been made to secure the appropriation, but that a majority of the council refuses to make it. Of course the city will ultimately be obliged to pay the money, but the action of the council, if persisted in, will result not only in needless expense of litigation which must be met by the city, but what is probably of more importance, will add to the disfavor with which Texas is regarded by men who realize the opportunities for benefit to the State and to investors of capital under normal conditions, but who fear hostile legislation or hostile politics. The work begun at Galveston has not been begun too soon.

not fail to realize that the small development done, covering an extent of only 2480 acres, is only the forerunner of more extensive drillings. It is safe to say that the Navarro county pool extends for many miles into adjacent counties, following the yet undetermined anticlinal axes, and that the Texas field will in a few years become the third greatest producer in the United States. Its geographical position, owing to its proximity to the Gulf of Mexico, from which ports the South and Central American markets can easily be reached, add greatly to the value of the product and its importance as an economical factor in the commercial industry of the Southern States and Mexico.

The geological structure of the Texas petroleum field is as remarkable as the product itself, the rocks being so soft that a well 1000 feet deep is drilled in ten days. The depth at which petroleum is found is from 850 to 1050 feet below the surface. This advantage is of the most vital importance, as the drilling is inexpensive and the loss is insignificant in the event a "dry hole" is encountered.

It is undoubtedly an undisputed fact that Texas is the best field developed for many years, and that the petroleum industry of that State will soon rank as one of the leading natural resources of the South. In production it already ranks seventh among the oil-bearing States, California being sixth, but the actual value of the Texas oil is \$1.50 per barrel, as against \$1 per barrel for the California product.

It is true that the present petroleum supply in Texas is only sufficient to supply local demands, and that the tanks and pipe line connecting the field with the new refinery (1898) at Corsicana are inadequate for the requirements of the future export trade when the West Indies, Central America and South America will eventually draw its quota of its 6,000,000 barrels of imported kerosene and other oils from this field. It is this foreign demand that adds to the industrial and financial importance of the Texas petroleum field and its refined products, which importance will increase when a system of pipe line will connect the field with a good harbor on the Gulf.

The results in the petroleum fields of Kentucky and Tennessee, where many "dry holes" and an occasional "heavy oil" well has been "brought in," does not indicate the absence of petroleum in paying quantities, but rather an unfortunate succession of circumstances. It is the belief



of many engineers and geologists who have given these States the most careful attention that petroleum does exist in large commercial quantities, but that the pools have not so far been properly tested. Where a progressive industry of such magnitude as this is concerned, it seems to me that it would be advantageous public policy if the State interested should not only make a complete survey of the petroleum-bearing zones, but also drill in test wells to prove the theoretical verdict of the State geologists. The public utility of such practical tests, if successful, would redound to the benefit of the individual as well as the Commonwealth.

Returning to the Texas wells, I find that they give from ten to fifteen barrels of petroleum per twenty-four hours, or an average of twelve and one-half barrels each, equal to a yearly production of 4562½ barrels per well, valued at \$6843.75. The cost of producing the petroleum is about \$1368.60, leaving a net profit of \$5475.15 for each average well selling oil at \$1.50 per barrel. However, it must be remembered that the present price of petroleum is exceptionally high, for the reasons that I will hereafter describe; yet with petroleum at its real intrinsic value, \$1 per barrel, the margin of profit on the Texas petroleum should be about seventy cents per barrel. The gain in Texas petroleum production during the past two years amounted to over 750 per cent.

It is interesting to note the total American crude petroleum production during the past three years—1897, 60,475,516 barrels; 1898, 55,364,238 barrels; 1899, 57,682,403 barrels. In this comparison it will be observed that the annual production for 1898 and 1899 is far below that of 1897, which in part accounts for the increase in the price of crude and refined oil. The actual increase in price of petroleum varies from 33 per cent. to 67 per cent., the lowest being in the heavy oils of Ohio and Illinois, and the highest the light oils of the so-called Pennsylvania field, that extends into West Virginia, and the Texas oil. Besides the increase in production, which is more than counterbalanced by the high prices, the demand for petroleum, owing to its adaption as fuel, has increased about 10 per cent., so that the supply, in order to be equal to the demand on the ratio of 1897, would have to be about 66,800,000 barrels. These figures show an actual shortage of about 9,117,597 barrels of crude petroleum per annum below the actual demand. The existing high prices have naturally stimulated drilling in new fields, as well as the further development of old ones, but it will be some years before the production can possibly balance the demand. California, Texas and Wyoming are rapidly developing new territory, and are destined to play an important role as petroleum-producing States. An attempt has been made by English capitalists to make Canada an extensive oil producer, but although there are now in Canada over 10,000 wells, the production for 1898 was 758,391 barrels and 1899 about 900,000 barrels, or only one-third more production than the small undeveloped field in Texas, with only 360 wells. This is an important comparison in favor of Texas.

Much has been said in this country relative to the heavy competition of Russian petroleum against the American production on the European markets, but not until 1898 did this competition prove itself formidable in the minds of those statisticians unfamiliar with chemical composition of petroleum. It was during that year that Russia, with a production of 60,597,544 barrels of petroleum, exceeded the American output by 5,233,321 bar-

rels. But the European press and the book-worm experts, who had never even as much as seen an oil derrick, sent up a great howl of joy "over the downfall of the American petroleum industry." Had these same people stopped to analyze the actual physical relations between American and Russian petroleum; had they known that the American crude oil, giving from 75 to 90 per cent. of illuminating oils and selling for over \$1.50 per barrel, as against the Russian oil, yielding from 33 to 36 per cent. illuminating oils and

selling for fifty cents per barrel, they would have saved their ink and ambitions for use in a more plausible cause.

For many years the English, Belgian and French oil refineries have attempted to purchase cheap crude petroleum on the Atlantic coast of the United States, but owing to the pipe-line monopoly this has been impossible. The Texas field is admirably adapted, owing to its proximity to the seacoast and the character of the product, to the shipment of crude petroleum to the European refineries.

## AMERICAN RAILWAY EVOLUTION.

By H. T. Newcomb, Chief of the Division of Agriculture of the Census Office.

The tremendous rapidity of railway construction in the United States throughout the period which began with the close of the civil war and had scarcely ended at the date of the eleventh census, in 1890, absorbed so entirely the energies of those who were attracted to the business of railway transportation, that they had little time for the development of better methods than those which met, so as to give approximate satisfaction, the immediate, though temporary, demands. Capital had to be secured and traffic had to be handled, but beyond these comparatively simple requirements the necessities of the situation imposed no extensive obligations. Nor was there, on the other hand, that stress of competition among the directors of railway enterprise which might have forced a more speedy progress than the economic condition of industries in general and of the railway business in particular absolutely required. The fact, so easily forgotten, that the railway systems of the United States, which included but 28,919.79 miles in 1860, had grown to 163,562.12 miles in 1890, showing an average yearly construction of nearly 4500 miles and an annual investment represented by securities valued at more than \$250,000,000, is evidence that the demand for administrative and executive officers must have absorbed not only the entire supply of the fairly competent individuals who had enjoyed previous railway experience, but must also have made large demands upon those well-qualified in other occupations. As there was at the same time a parallel development of many other industries in the United States, it is clear that the quality of American railway administration is attributable rather to the inherent ability of those employed than to any comparative tests of excellence imposed by the conditions of the service. The high degree of efficiency actually attained in railway administration is, therefore, much more remarkable than the newly discovered fact that it might have been still higher.

After the financial depression of 1884 there began a period of more moderate railway construction, while causes that had previously operated, not ineffectively or unperceived, yet under conditions of greater prosperity, without making such imperative demands, soon made other methods, greater attention to detail, and higher general efficiency absolutely indispensable.

Though, particularly among the Eastern lines, there was a slightly earlier movement in the same direction, the year 1885 may be regarded as the approximate beginning of a series of changes which, working with especial force during the years since 1890, have practically revolutionized the railway industry. These changes have affected the physical condition of railway properties, and have upon the moral side substituted new principles in nearly every department of adminis-

trative activity for those which, though they had served well enough in their time, had become unmistakably obsolete and insufficient.

This physical evolution has had for its object the increase of the efficiency of the railway train, considered as a machine, for the rapid and safe movement of persons and property. The particular form which this evolution has taken has been that of a decrease in the proportion of dead to paying weight in each train by increasing its size and capacity. An increase in the capacity of single cars was one of the primary steps in this process. The six, eight and ten ton freight cars gave place to those of twelve, fifteen and twenty tons capacity, and the latter came on the scene only to be superseded by those capable of holding thirty, forty, and even fifty tons of freight. During the last twelve months a single railway company condemned and had destroyed 10,000 freight cars, not because they were worn out, but because they were smaller than the size of satisfactory efficiency fixed by present conditions. At the present time the substitution of steel for wood as the principal material for freight cars is furnishing another means of decreasing the proportion of dead weight to revenue-paying freight. A single concern engaged in the manufacture of steel cars is reported to have orders at the present time for \$20,000,000 worth of such cars, which are to be delivered by June, 1900.

Larger cars required more efficient motive power, and the locomotive had to be developed along with the freight car which it hauled. Recent reports of leading American locomotive builders show the later progress in this direction. The Baldwin Locomotive Works turned out 946 locomotives in the year 1890, which weighed in the aggregate 43,691 net tons. In the year 1899 the same concern built 901 engines, a slightly smaller number, but the total weight of the output was 58,078 net tons. The average weight per locomotive in 1890 was therefore 92,370 pounds, and in 1899 it was 128,920 pounds. This average is affected by some very light locomotives, one weighing only 17,500 pounds. The heaviest engine built in 1899 weighed 225,000 pounds. The increase in average weight, which is an approximate index of potential efficiency, was nearly 40 per cent. Similar testimony comes from the Brooks Locomotive Works. The locomotives constructed in the latter establishment averaged 112,633 pounds in 1891, and 165,768 pounds in 1899. The increase of 53,135 pounds in this average amounts to more than 47 per cent. of the average of the earlier year.

Accompanying the evolution in cars and motive power, there has been a similar development of roadbed and track. The original strap rails had hardly disappeared from the latter when the iron rails, which superseded them, began to give place to those made of Bessemer steel.

As late as 1880 steel track constituted less than one-third of the total mileage; in 1890 about 80 per cent. was of steel, and at the present time more than 90 per cent. is of the latter material. The amount of steel track has increased much faster during the present decade than the mileage of all kinds. Contemporaneous with the substitution of steel for iron rails there has been a steady progression in the weight of the rails used. Beginning with rails weighing fifty-six and sixty pounds per yard, the weight has been gradually increased until 75 and 80-pound rails are common, while those weighing 100 pounds per yard are by no means rare.

During the same period the efficiency of motive power has been still further increased by general reductions in grades and lengthening of the radii of curves. These improvements have been introduced seemingly with little regard to expense wherever practicable.

The efficiency of railway facilities has also been enhanced by the relatively rapid increase in auxiliary tracks of all kinds. For example: In 1890 there was an average of 215 miles of yard track and sidings for each 1000 miles of line. By June 30, 1898, the latest date covered by the reports to the interstate commerce commission, this average had increased to 258 miles. Similarly in every 1000 miles of line there were fifty-two miles of line having two or more tracks in 1890, and sixty-one miles in 1898. In 1890 4.65 miles in every 1000 had three or more tracks, and 3.43 miles had four tracks; in 1898 these numbers had increased to 5.42 and 4.26, respectively.

The result of the changes that have been enumerated and others of similar significance are summarized by the figures which show the average trainload. The statistician to the interstate commerce commission gives the following averages, which include the entire railway freight business of the United States:

Year ended June 30.	Average number of tons in train.
1890.....	175.12
1891.....	181.67
1892.....	181.79
1893.....	183.97
1894.....	179.80
1895.....	189.69
1896.....	198.81
1897.....	204.62
1898.....	226.45

It was in consequence of this increase in train efficiency that the railway freight traffic in 1898, which was 50 per cent. greater than that of 1890, was moved with an increase in freight-train mileage of less than 16 per cent. over the earlier year. If the comparison is made with the year 1893, the twelve months of heaviest traffic prior to 1897, it appears that the freight traffic of 1898 was 22 per cent. heavier and the freight-train mileage nearly 1 per cent. less than in the earlier year. Had the average trainload been no greater during 1898 than during 1890, the train mileage necessary to move the traffic would have been 29 per cent. greater, and the cost of operation would have been enhanced at least \$100,000,000; or, in other words, by an amount sufficient to absorb more than the total amount paid in railway dividends during the year. It should be observed here that the physical improvement in railway properties has never advanced more rapidly than during the last twelve months, and that the figures just quoted do not include the results of these latest improvements.

No merely physical evolution, however extensive, could have produced the present conditions in railway transportation, even had it been practicable to accomplish such vast mechanical improvements without correlative modifications of a strictly moral character. To the philo-



sophic view, it is unquestionable that the ideas that were natural concomitants of the period of small cars and crudely-devised locomotives, of hasty construction and engineering makeshifts, must inevitably have given place to others more nicely adjusted to the conditions that are fitly represented by modern equipment and the magnificent steel highways of the present day.

As the changes, here denominated moral, are of a less tangible character than those previously enumerated, it is naturally more difficult to fix the date on which they commenced perceptibly to influence railway administration. They began, as might be supposed, in the more densely populated regions, and have but gradually forced their way until at the present time they pervade practically the entire railway system.

Sounder views in regard to the treatment of the capital and construction accounts constitute one of the most desirable expressions of the new order. The early practice was to construct a line as cheaply as possible and open it for traffic with the least practicable delay, frequently with a capital account already largely in excess of the actual cost of construction, on account of the discounts necessary to secure funds and the reckless issue of securities to the promoters of the enterprise. In these cases the fact that improvements amounting almost to reconstruction would soon be necessary did not escape attention, but it seems invariably to have been expected to meet these expenses by the issue of new securities as soon as the beginning of traffic movement should render capitalists more approachable. Even when the resources of an undeveloped country furnished abundant traffic and ample revenue, it was considered proper to divide the entire surplus over operating expenses and taxes among security-holders, and to charge all improvements to the capital account. Nor was this by any means the worst feature of the situation. There was no systematic allowance for the depreciation of property through use, no recognition of the regular consequences of wear and tear of roadbed and equipment, and even ordinary renewals, which neither improved upon original construction nor increased earning capacity, were for a time commonly charged to capital. The evil consequences of this system could not long remain undiscovered. One after another those in charge of railway properties learned that, while such methods might not bring disaster during periods of industrial prosperity, the lines which were weakened by them were the first to fall into bankruptcy when subjected to the inevitable strain of hard times. At the present time this evil custom has practically disappeared, though the enormous ratio of securities to mileage and property of a few important lines remains as a source of weakness that is evidence of its monumental folly. Repairs and renewals are now universally paid for out of current revenues and properly charged as operating expenses, while the general test of a charge for betterment is whether the expenditure has increased the earning capacity of the line. If it has done so, it is considered proper to add to capital a sum strictly limited by the minimum estimate of the anticipated increase in earnings; otherwise, it must be charged to operating expenses. If there are cases to which these principles are not applied, they are so rare and so carefully concealed as to prove that the more satisfactory practice has become the general rule. Not a few great railway corporations have gone to an extreme which is directly opposed to the former practice. They will make no charge to

capital under any circumstances, and insist on making an operating charge for every expenditure for improvements. While this is an extreme method, and in some cases may, at least if not fully understood, be subject to attack, it is thoroughly sound from the point of view of the investing public, and much better in every particular than the old system.

The secrecy which surrounded the important facts concerning railway finance and operations was formerly a frequent source of complaint. Most investors in railway securities were forced to act with imperfect knowledge, and not infrequently many were misled by those whom they paid to act in their service. The traveling and shipping public also felt that the semi-public nature of railway business entitled it to information which would throw light upon the fairness of the charges exacted for transportation services. Most railways now regularly publish elaborate statistical statements concerning their financial operations and the traffic which they carry. Publications of this kind are very much in the nature of hostages for future good behavior, and a public sentiment which demands them is a long step toward sound business methods. It would be scarcely possible for a corporation making such reports to maintain the market value of its common stock by the device, of which there are several instances in early railway history, of borrowing money out of which to pay unearned dividends.

There are signs, too, that speculative railway management; the manipulation of securities by officers, acting often in a manner antagonistic to their employers; and even strictly speculative railway construction; are to be hereafter regarded as evils of a past epoch. Railway presidents and traffic officers no longer sell short large blocks of the securities of the companies they serve, and then inaugurate rate wars, extravagantly costly to the real owners of the property, in order to be able to cover their sales and secure handsome profits.

A few years ago most of the owners of railway securities were exceedingly impatient if their more clear-headed colleagues suggested the advisability of retaining some of the net income of prosperous years to cover the deficiencies of the probable lean years to follow. The highest dividends were demanded, and it was insisted that every available penny should be promptly distributed. A changed sentiment, similar to the others noted, has met this demand and convinced all but the most reckless owners of railway stocks that it is to their own interest to keep dividends at a rate which can be maintained through good and bad times alike, to accumulate a surplus in times of plenty, to use current revenues for replacing current losses from wear and tear and for many kinds of improvements, and to avoid as far as possible any additions to the capital account.

It may be a little early to speak with much definiteness of the altered attitude of the leaders of thought in railway circles toward legislative regulation of their business, but the writer receives constant evidence of a sentiment in favor of meeting the public authorities a little more than half-way in a spirit of candor and cordiality. Though a few railway managers, who attained prominence under the old conditions, have not yet recognized the fact that the public demand for supervision of railway transportation is continuous and invincible, the abler men have accepted the new conditions and are willing to act in accordance with them. The year 1899 should ever be regarded as complete evidence of the benefit that may result from the co-operation of railway

officers with the representatives of the public. It followed a period of most inexcusable rate-demoralization, and was marked by the utter absence of the restraints that had been formerly relied upon. In this situation it was extremely fortunate that the Interstate Commerce Commission was dominated by a chairman, Hon. Martin A. Knapp, who from the time when he entered the commission had shown an unusual appreciation of the larger relations of the transportation industry, and of the possibility and importance of securing the confidence and assistance of railway owners and managers. Under his leadership the influence and authority of the commission became the principal means of maintaining the orderly adjustment of rates during the year. It is probable, however, that at no previous time would the overtures of the commission have met with the general and frank response which they received at the beginning of 1899. Not only confidence in the intentions of the commission, but the spirit of acceptance of public supervision and regulation had to develop before this could have happened. Both were stronger a year ago than ever before, and each has grown with unprecedented rapidity during the last twelve months.

This hasty sketch may be brought to a close with a rapid survey of the effect of these physical and moral changes within the railway system upon the general public sentiment. Has public opinion adjusted itself to new conditions, or do the popular prejudices which sprang from means and methods that are gone still exist, belated relics of the mistakes and wrongs incident to rapidly-changing conditions? A very definite answer cannot be given. In the East, especially where railway consolidation has been most successful, the anti-railroad cry is no longer heard, and the wisdom of legalizing contracts for the maintenance of uniform charges and of legislative restraints upon the speculative construction of unnecessary lines is quite generally accepted. Everywhere demagogic attacks upon railways and their officers have apparently ceased to constitute an easy road to elective office. Yet a minority retaining some obstructive power, though numerically insignificant, appears still to believe that so-called railway competition is a generally effective agency for reducing and regulating charges, and that its suspension, even by contracts executed under Federal supervision, would lead inevitably to extortion. The experience of recent years and the investigations of the Interstate Commerce Commission and of disinterested students are, however, daily adding to public knowledge upon this subject, and it appears reasonable to hope that this prejudice will soon disappear. When it has done so the sentiment of the citizens of the United States in regard to this most important industry may probably be considered as modern, as fairly adjusted to the ends which it should serve, and as fit an object of American pride as the physical means by which that industry is conducted.

Mayor J. C. Bush and the general council of Mobile christened last week the works of the new Mobile city water-works. The reservoirs have a capacity of 10,000,000 gallons, and the pump has a capacity of 7,000,000 gallons every twenty-four hours.

The Tennessee River Improvement Association, in session at Knoxville last week, adopted a strong memorial to Congress and appointed a delegation of fifteen to go to Washington to urge appropriations for the improvement of the river and its branches.

## COAL AND COKE SHORT.

### But Advances Are Under Way in the Birmingham District.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., January 16.

The market has an air of expectancy. While the actual transactions fail to show an activity in the market, the inquiries have increased, and feelers for soft spots in the market are becoming more frequent. There are none here. Comparatively little iron is being priced for long delivery. Buyers and sellers have divergent views, the one contending for concessions in price, while the other is perfectly indifferent about selling at present price. Quotations are on the basis of \$17.50 for No. 2 foundry, but for prompt shipment in small lots prices are irregular at an advance up to \$1 per ton. There were some feelers for lots of 1000 and 2000 tons, but they resulted in no business.

There was also some foreign inquiries, notably one from Germany, for basic iron, but they were all turned down. Yet export iron is going out. Your correspondent saw last week memorandum of shipment for export trade of 4700 tons in one office. The demand for basic iron has so grown and has become so regular that the facilities for its production will soon be increased by the Tennessee Coal, Iron & Railroad Co., which will devote another furnace to this grade. It is also said that a second furnace interest will before the end of the year be a producer of basic iron. Production will soon be increased to a limited extent, as the Talladega furnace has blown in and the Gadsden furnace is booked to open this week. To these can be added a few more east of us—none of large capacity—whose time of commencing operations is dependent upon the uncertain quantity of regular and constant supplies of material. To keep those now running in constant operation every department must do without fail its expected part. If there is any slip-up anywhere there is a corresponding deficiency of material that forces a cessation until it is remedied.

The most serious deficiency has been in coke. Some furnaces have been declining all new business. While some new ovens are added weekly to increase coke production, and while it is true capacity will be considerably increased before the year ends, the fact must not be lost sight of that the demand keeps up apace also. It is the same way in coal. New mines have been opened and are being opened. The Republic of Mexico alone is a constant supplicant for coal and coke we cannot supply.

The steel mill has constant applications for material it cannot yet supply.

The announcement made some time ago that the Republic Iron & Steel Co. would build two furnaces at Thomas is now confirmed. Work on one will commence at an early date, and after due progress the second will be started. Their steel mill will follow, and it is announced that it will at least equal the one at Ensley. Since last letter the owners of the Bessemer Rolling Mill have sold 80 per cent. of the stock to a private party, who, it is an open secret, represents the Republic Iron & Steel Co. The transfer papers have not yet been made out, and no official will state the real buyer. The Steel Chain Co. has had its representatives here to determine the character and quality of its improvements. The company will put in four open-hearth furnaces, and proposes to make its plant here first-class in every respect. The main owners of the cement mill were here to determine the expediency of doubling its capacity. The one great difficulty under which they



have labored has been the prompt and regular delivery of slag. The Central Foundry people are favorably considering the doubling of the capacity of its plant at Bessemer. The site of the Baxter Stove Works was sold last week to some Western parties, who will transform the works into soil-pipe works employing 100 workmen. They propose to complete the change in thirty days. They will be incorporated with a capital of \$50,000, capable of increase to \$200,000.

J. M. K.

### Eastern Iron Markets.

[Special Cor. Manufacturers' Record.]  
Philadelphia, Pa., January 17.

Business in pig-iron for the past week has been almost nothing. This, however, has been the fault of the pig-iron makers, who have declined to make concessions. It is rather strange that there is so much anticipation of this sort. Pig-iron makers see no reason why they should take less for spring and summer delivery, with the prospects of coke being dearer and coal going up, to say nothing of the increase of mine labor. For the present, therefore, the pig-iron market is quiet. Neither one side nor the other will move. A good deal of business could be done in steel billets at \$1 less than present asking prices, but manufacturers will neither accept nor yield a single point. They have plenty of business on hand, and can get all they need when the time comes. In other branches there is nothing new. Everything is solid and firm. The prospects are for a big year. Manufacturers are willing to wait until buyers are ready to buy; in fact, they say last year there was entirely too much anticipating done, and it would be better this year if buyers waited until they were in need of material. They say that with increasing capacity there is less necessity for buying so far ahead. In regard to sheet iron, nothing new has occurred and no concessions are offered. Skelp iron is very firm, and mills are only moderately supplied with work. It is said this will be the first market to show weakness. Grate iron has weakened slightly for summer and fall deliveries. Structural iron is very strong, ranging from 2.40 to 2.80. Meetings are likely to be held by structural-iron makers which may modify these quotations somewhat. Nothing new has occurred during the week in regard to steel rails, excepting that two or three foreign inquiries and some home inquiries for rails have been received, but it is said that the placing of additional home orders at this time is based upon something less than the current prices. This is a very unlikely occurrence. Today's report on scrap shows a sudden revival of demand at current quotations, but the scrap men are unable to put their fingers on any, as the market has been absolutely cleared up.

### The Iron and Metal Trades.

[Special to Manufacturers' Record.]

New York, N. Y., January 18.

In its weekly review the Iron Age says: "It has been apparent again that large buyers of undoubted standing have been able to pick up bargains in foundry iron. In such cases a number of sellers have sought the opportunity, which is equivalent to guaranteeing their profit. While it may be argued that this is a sign of weakness, it is true on the other side that such concessions as have been made would not tempt experienced buyers unless they recognized the inherent strength of the situation. It is worthy of note that purchases of this character have been made by melters who are covered far into the second half of the year."

"The fact is that men possessing long familiarity with the iron trade appreciate

the fact that iron production is proceeding under a tremendous strain, and that any weak link destroys the integrity of the whole chain. The coke scarcity has been the latest specter. Although there seems little danger that we shall undergo the experience of iron-makers on the Continent of Europe and in England, still the danger of temporary, annoying shortage is pretty close upon us. A blizzard might disorganize the industry for weeks. In the Eastern markets there has been quite a movement in basic pig lately.

"Bessemer pig in the Central West is quiet. The Valley Association has lately decided to take care of the sales of mill irons also.

"The steel situation is still undefined. The largest transaction during the week seems to have been the purchase of 10,000 tons of steel by a mill in the Philadelphia district from a Pittsburgh steel-maker. Reports have been current that one of the largest consumers has bought a large block of billets. We understand that while conferences have taken place, no sale has been effected. The large makers continue to hold on the basis of \$35 at Western mill, but that price is being shaded by others, and \$34 is closer to the market.

"Reports came from the West to the effect that further steel-rail orders of some magnitude have been placed, among them being one lot of 50,000 tons for export. It may be of interest to note in this connection that a new maker has appeared in the market, the Ohio plant of the National Steel Co. having recently solicited rail business.

"The railroads seem to be buying bridge material quite heavily. Chicago reports the closing of one contract for about 3000 tons, with another for 8000 tons pending. In the East the 13,000-ton order for the New York Central road will probably be closed this week.

"The tonnage for the New York Rapid Transit tunnel, of course, is very large, probably close to 60,000 tons, but it will be extended over a number of years. The work will necessarily be distributed among several mills. So far as we can learn, the material is not yet covered, wholly or in part.

"It appears that some of the large interests are making sacrifices to hold a good share of the export trade. Our German correspondent refers in his letter to the disturbing effects upon the German wire interests of the competition from American sources."

### The Sun Almanac.

Thousands of readers of The Sun of Baltimore are now enjoying the possession of copies of The Sun Almanac of 1900. With this issue the almanac completes the twenty-fifth year of its publication. Its quarter of a century has been marked by a steady development of the features which made the first issue so welcome among business men, householders and housekeepers and men in public life. With increasing years it has somewhat broadened its scope, but has maintained its well-earned reputation for reliability of statistics and accuracy of statements. It is an invaluable compendium of facts relating to the State governments of Maryland and Virginia, to the general government and to municipal, State and national elections, while among its most interesting special features are condensed articles about the blizzard of 1899, marine disasters, sporting record, the Dreyfus case, the Windsor Hotel fire, developments in telegraphy, submarine navigation and surgery, the personnel of leading denominations in the country and the organization of patriotic societies.

## RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### SOUTHERN RAILROAD EARNINGS.

A Remarkable Percentage of Increase—Exceeded in Only Two Other Sections of the Country.

The reports of the various railroad lines in the United States for the calendar year of 1899 shows that the earnings of the Southern roads increased 10.4 per cent. This was exceeded only by the "Grangers" and the coal-carrying systems. This remarkable showing is made in spite of the fact that the cotton movement was much smaller during the season than in 1898, indicating that miscellaneous freight traffic has very largely expanded. The earnings of the principal systems of the country show an increase in the aggregate of but 9.7 per cent., the Southern roads exceeding this.

Among the individual gains shown in the Southern group, the following may be especially mentioned: Southern \$2,857,000, Louisville & Nashville \$3,131,000, Mobile & Ohio \$1,226,000, Central of Georgia \$1,070,000, Nashville, Chattanooga & St. Louis \$1,840,000, Chesapeake & Ohio \$515,000, Norfolk & Western \$1,347,000. In the case of the Illinois Central the earnings for the entire system amounted to \$29,898,000, a gain of \$2,268,000. A large portion of this can be properly included in the earnings of the Southern group.

Altogether, the statistics are very encouraging to investors in railroad properties in the South, as they show not only the healthy condition of traffic, but are partly the results of able and conservative management.

### Mr. Ingalls to Resign.

Mr. Melville E. Ingalls has confirmed the report that he will resign the presidency of the Chesapeake & Ohio Railway Co., though he will retain his interest in the system. Within the comparatively short period of his connection with the Chesapeake & Ohio it has made remarkable progress, due in a great measure to his ability and energy. Within ten years it has been converted from an impoverished, weak road to one of the best in the country in physical and financial condition. Its revenue from both freight and passenger traffic has steadily increased through connections which have been made and improvements which have resulted in its operation at the most economical figures, considering the volume of traffic passing over it. Mr. Ingalls is responsible for the establishment of the Chesapeake & Ohio Steamship Co., which, with other transatlantic service, has built up its foreign freight. He has encouraged the construction of feeders to develop the natural resources of West Virginia and other portions of the South traversed by the Chesapeake & Ohio.

While accomplishing this great work, Mr. Ingalls has also been at the head of the Cleveland, Cincinnati, Chicago & St. Louis system, the principal Northern and Western connection of the Chesapeake & Ohio. Really he has done the work of two men, and has successfully undertaken what many would utterly have failed to do. While the Chesapeake & Ohio represents nearly 1400 miles of road, the Cleveland, Cincinnati, Chicago & St. Louis aggregates 1838 miles, making the total of the two systems of which he has been the head over 3000 miles.

Among the names mentioned as Mr. Ingalls' successor is that of Mr. Decatur Axtell, second vice-president of the Ches-

apeake & Ohio. Mr. Axtell is an official of broad ideas and great executive ability, thoroughly identified with the measures for the betterment of the railroad, and among the foremost friends and strongest advocates of Southern progress, while his railroad experience is such as to eminently fit him for the place of president.

### Up Coal River Valley.

The valley of the Coal river in West Virginia will be opened by the construction of the Pocahontas, Coal River & Kanawha Railroad, which is to be constructed from St. Albans, W. Va., where it will connect with the Chesapeake & Ohio system, to a point twenty miles distant. In a letter to the Manufacturers' Record C. C. Watts of Charleston, W. Va., president of the railroad company, writes that the Equitable Construction Co. has been formed to build the distance mentioned, and has already begun work. Mr. Watts states that the building of this line will cause the opening of several mines of what is known as the "Black Band" coal, and that several lumber companies will establish plants also in this portion of the State. New York capitalists are reported as interested in the development of the coal properties.

### The Railroad Advance.

The thirteenth annual report of the interstate commerce commission for the year ended June 30, 1899, covers reports of 691 railroad lines, representing 185,245.80 miles. The total gross earnings of the railways were \$1,307,253,484, an increase of \$59,927,863 over the previous year. The operating expenses were \$852,428,105, an increase of \$34,454,829. The net income, from which is taken interest on bonds, taxes, permanent improvement charged to the income tax, dividends and other analogous items, was \$454,825,379. The surplus from the operation of the railways was \$50,768,209, a decided advance since the year 1895, when there was a deficit of \$31,075,030. Dividends declared last year amounted to \$82,204,820.

### Acquired the Abingdon & Damascus.

[Special Cor. Manufacturers' Record.]  
Bristol, Tenn.-Va., January 16.

A deal has just been closed in this city by which the Norfolk & Western Railway becomes the practical owner of the Abingdon & Damascus Railroad, running east from Abingdon to Damascus, on the South fork of Holston river, a distance of twelve miles. This road will be extended from Damascus up Beaver Dam creek fifteen miles to Shady valley in order to bring out and market the vast quantities of white pine and other timber of that territory.

### Another Georgia Line.

A dispatch from Atlanta, Ga., states that the Atlanta & Western Railway & Power Co. expects to begin work immediately upon its line between Atlanta, Douglasville and Marietta, Ga. The estimated length of the road is forty miles, and it is understood electric motors will be used. The company includes a number of Western capitalists, also prominent citizens of Atlanta. Among them are Hon. W. J. Northen, T. B. Neal and E. P. Black of Atlanta, L. C. Lull of Kalamazoo, Mich., and F. S. Monnett of Columbus, Ohio.

### New Line in Arkansas.

A recent report in the Manufacturers' Record of a contemplated railroad line between Eureka Springs and Harrison, Ark., has been confirmed by John Scullin of St. Louis. Mr. Scullin is president of the Allegheny Improvement Co., which



is promoting the line. Bids are now being solicited to construct it, and it is expected to "make contracts about February 1. This road, which is termed the St. Louis & Northern Arkansas, will be about fifty miles in length and reach extensive deposits of zinc and other minerals known to exist in the vicinity of Harrison. The Eureka Springs Railroad, now in operation, will form a portion of the new line. It extends from Eureka Springs to Seligman, Ark., a distance of nineteen miles.

#### Chattanooga to Charleston.

The Chattanooga, Augusta & Charleston Air Line Railway Co. has formally organized by electing R. Lancaster Williams of Richmond as president; Charles S. Heard of Augusta, vice-president; Boykin Wright of Augusta, secretary, and Frank L. Fleming of the same place, treasurer. This is the company which proposes completing a new route from Chattanooga to Charleston, S. C., by way of Athens and Augusta, Ga. The company includes a number of stockholders of the Seaboard Air Line, and it is understood is acting in the interest of this system. It is reported that it has already secured property for terminals in Augusta and Charleston.

#### Louisville & Nashville Earnings.

The Louisville & Nashville Railroad Co. has issued a statement for the last six months of 1899, which indicates that it is well able to declare a dividend of 2 per cent. for the period mentioned. The gross earnings for the six months are calculated to be \$14,077,000, an increase of \$2,191,000 over the corresponding half-year. The net earnings are estimated at \$4,888,000, an increase of \$718,000, while the total income shows an increase of \$702,000. Deducting charges of all kinds, a surplus is left of \$2,047,000. As the amount of the dividend is \$1,056,000, it will be seen that a balance is left after deducting this of nearly \$1,000,000.

#### Choctaw Annual Report.

The report of the Choctaw, Oklahoma & Gulf Railroad for 1899 was recently made public, and shows how the business of this line has increased. Its gross earnings amounted to \$1,352,000, compared with \$1,068,000, an increase of nearly \$300,000, or nearly 30 per cent. The mining company operating in connection with the railroad earned \$607,000, an increase of about \$40,000 over the preceding year. Deducting operating expenses, interest and taxes, a surplus is left of \$459,000, compared with \$356,000 in 1898, or an increase of \$103,000. This includes both the railroad and mining property.

#### Work on the Seaboard Air Line.

Vice-President St. John of the Seaboard Air Line states that the new mileage under construction in South Carolina and Virginia will probably be completed by February 1. On the section in South Carolina the grading is about completed, and tracklaying is going on between Cheraw and Camden. About fifty miles of track is to be laid, and this is progressing at the rate of four and one-half miles a day. The new line is being laid with 80-pound steel rails, and the road from Hamlet to Cheraw has also been relaid with the same weight.

#### Railroad Notes.

The Atlanta, Knoxville & Northern Railroad Co. has elected John B. Newton acting general manager.

The Choctaw, Oklahoma & Gulf Railroad Co. has opened an agency at Atlanta, Ga., with C. H. Angle as representative.

The Birmingham Railway & Electric Co. is about to purchase rolling stock for its line between Birmingham and Bessemer, Ala., which is to be operated by trolley system.

The Virginia & Southwestern Railroad Co. has recently given an order for six 85-ton locomotives to the Baldwin Works, and for several hundred coal cars, which will be built at Lenoir City, Tenn.

The Augusta Exchange and Board of Trade of Augusta, Ga., has adopted resolutions favoring the granting of franchises to the Seaboard Air Line to allow it to enter that city.

At the annual meeting of the Georgia Car Manufacturing Co. of Savannah it was reported that the company is now working on an order of 1000 cars alone, in addition to several smaller orders, and that it is employing about 300 hands.

The Southern Railway Co. is improving its terminals at Augusta, Ga., by the erection of a steel bridge across the Savannah river, which will be 886 feet in length when completed. The Phoenix Bridge Co. of Phoenixville, Pa., has the contract for the work.

The Georgia Southern & Florida Railroad Co. has begun the construction of sixty cars at its own shops at Macon. They will be used for carrying fruit and equipped with refrigerator apparatus. It is stated that the company has facilities for manufacturing its rolling stock as cheaply as can be turned out elsewhere.

The Sawyer & Austin Lumber Co. and the Pine Bluff & Western Railway Co. in Pine Bluff, Ark., have consolidated their interests and elected W. W. Cargill, president; D. G. Kendall, vice-president; H. S. Russell, secretary, and John H. McMillan, treasurer. The railroad is to be extended a distance of twelve miles, as recently noted in the Manufacturers' Record. The extension will traverse a portion of the State which is heavily timbered. It is now in operation a distance of thirty miles between Pine Bluff and English, Ark.

#### Progress at Corsicana.

[Special Cor. Manufacturers' Record.]

Corsicana, Texas, January 15.

That Corsicana, Texas, is coming to the front as one of the most important cities of the Southwest cannot be doubted when it is known that the city is now lighted and being heated with natural gas, a large supply of which has been secured. Statistics furnished at a meeting of the Commercial Club January 5 showed the advance of Corsicana in a commercial way since 1889. The postal receipts increased from \$8904 in 1898 to \$14,080.88 in 1899; the assessed value of mercantile stocks from \$1,206,825 in 1889 to \$2,231,000 in 1899; the assessed value of real estate from \$2,093,996 in 1880 to \$3,089,020 in 1899. About \$40,000 has been subscribed for the building of a cotton mill, and the requisite amount to be raised during this month to build a \$100,000 mill.

Engineer Wm. M. Elliott reports work of preparing his report of a survey of the Corsicana & Southeastern Railway to Sabine Pass as about completed.

A satisfactory deal will be made with parties who will put in about five miles of electric street railway.

About 300 houses were built here in 1899, and still people are unable to get houses. A capitalist who would build houses for sale on easy monthly payments and to rent can make big money here.

The Harpold & Co. steam laundry will be ready for work in about ten days, this being one of the most complete plants in the State.

S. W. BOGY.

## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

#### \$100,000 Mill at Pelham, Ga.

Mention was made last week of the organization of the Pelham Manufacturing Co. of Pelham, Ga., to build a cotton factory. This company has a capital stock of \$100,000, which is all practically paid in, and work upon the construction of the plant is progressing rapidly. The mill proper will be a two-story building 105x180 feet, in which will be placed 3300 spindles, 100 heavy pattern looms and other necessary machinery for the production of eight-ounce osanaburgs and duck, using about 4500 bales of cotton per annum. The textile plant and power machinery has been contracted for, but orders for the following have yet to be placed: Heating and ventilating apparatus, electric-lighting plant, hangers, shafting, pulleys, belting, fire protection and roofing. About seventy-five operatives will be employed. J. L. Hand has been elected president; W. C. Twitty, vice-president, and B. U. Curry, secretary-treasurer. Directors are Messrs. J. L. Hand, W. C. Twitty, M. Wilkes, J. M. Hurst and James Watt.

#### Gastonia's Million-Dollar Mill.

Messrs. George A. Gray and John F. Love of Gastonia, N. C., have completed arrangements ensuring the erection of their proposed million-dollar cotton factory, mentioned last September as projected. The company will be organized under the title of the Loray Mills, with capital stock of \$1,000,000. Contract for the erection of the mill structure has been awarded to the Flynt Building & Construction Co. of Palmer, Mass. This building will be a five-story structure, 504x130 feet, and will house 50,000 spindles and 1600 looms. Contract has also been placed for a 2000-horse-power cross-compound condensing engine, and the power will be transmitted by a rope drive of forty-nine cables. It is stated that a member of the Gould family of New York has subscribed \$250,000 to the stock of this company, and that possibly the capital will be increased and the mill made of larger complement than as above announced.

#### 20,000-Spindle Mill for Tennessee.

Foreign capital will invest about \$400,000 in the location of an extensive cotton-manufacturing plant in the State of Tennessee. The plant is to be erected by the Bemis Bros. Bag Co. of St. Louis, Mo., Boston, Mass., and other cities, and will have an equipment of 20,000 spindles and other necessary machinery, to employ when in operation about 300 persons. Messrs. Lockwood, Greene & Co. of Boston are the architects for the mill. Mr. J. S. Bemis, treasurer of the bag company, was in Jackson last week and closed a deal for 300 acres of land, upon which the factory will be built. Work upon the enterprise will be commenced at once and pushed to completion. The Bemis Company's St. Louis plant is one of 12,000 spindles.

#### The Cotton Movement.

In his report for January 12 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight for the 134 days of the season was 6,244,051 bales, a decrease of 1,965,011 bales. The exports were 2,893,075 bales, a decrease of 1,738,549 bales. The largest decrease in exports are in those to Great Britain, amounting to more than 1,300,000 bales.

The takings by Northern spinners were 1,557,240 bales, an increase of 201,947 bales; by Southern spinners 646,926 bales, an increase of 61,361 bales.

#### 10,000-Spindle Mill for Atlanta.

The George W. Scott Investment Co. of Atlanta, Ga., will engage in cotton manufacturing, and has accordingly contracted for a complete plant. Contract to build and equip the mill has been awarded to Mr. George Gray of Gastonia, N. C., who has built and successfully operated several large mills, and is now planning a million-dollar mill at Gastonia. The Scott Investment Co.'s factory will have an equipment of 10,000 spindles and 250 looms, and is to be known as the Ingleside Mills.

#### Another 5000-Spindle Mill.

The company owning the Mooresville Cotton Mills of Mooresville, N. C., will erect another mill of the same capacity at its present plant. Mr. J. E. Sherrill, president, has stated that the required additional capital has been subscribed, which is about \$100,000. The new mill will have an equipment of 5000 spindles, 160 looms and necessary complement, to produce cotton yarns and brown sheetings as in mill No. 1.

#### Textile Notes.

A. A. Andrews of Greenville, N. C., is endeavoring to organize a company for the erection of a cotton factory.

The stockholders of the Raleigh (N. C.) Cotton Mills met last week and declared a semi-annual dividend of 4 per cent.

At the annual meeting of the Salisbury (N. C.) Cotton Mills during the week a quarterly dividend of 2 per cent. was declared.

E. L. Martin and associates of Macon, Ga., will build a mill for the production of knit goods. Further particulars will follow later.

James H. Parrish of Owensboro, Ky., confirms the report that he is interested in the organization of a \$200,000 cotton-mill company.

Probably E. S. Buchanan of Newnan, Ga., contemplates the erection of a knitting mill, as he is requesting prices on knitting machines.

It is likely that W. E. Lindsay of Chapel Hill, N. C., contemplates erecting a knitting mill, as he is asking for addresses of knitting-machine makers.

The Levi Cotton Mills of Rutherfordton, N. C., will build an addition and put in new machinery, which latter has been ordered. The mill's present equipment is 6240 spindles.

The Southern Association of Hosiery Manufacturers, representing twenty-two mills, has advanced the price of hosiery 10 per cent., the second advance within sixty days.

The Louisville & Nashville Railroad Co., by its Anniston (Ala.) superintendent, W. E. Knox, is negotiating with a company that contemplates erecting a branch knitting factory in the South.

Messrs. C. D. Barr, A. R. West, Matthews & Bouknight, E. J. Etheridge and others of Leesville, S. C., are endeavoring to organize a company to build cotton mill; proposed capital stock \$150,000.

A \$30,000 stock company will be organized for the erection of a mill to manufacture knit underwear at Griffin, Ga. Among those interested are J. J. Mangham and J. W. Mangham, J. D. Boyd and Douglas Boyd.

The De Kalb Cotton Mills of Camden, S. C. (mentioned last week), is to have, besides the 10,000 spindles reported, 300 looms and other necessary machinery.



The capital stock will be \$200,000. Mr. E. Miller Boykin is promoting the company.

Eastern capitalists are reported as contemplating the purchase of the Ocmulgee Mills property near Macon, Ga., intending to use same for a cotton factory. The property includes land, water-power, buildings, etc., and is owned by Walter D. Lamar of Macon.

Mr. Aaron French of Pittsburg has given \$3500 to the Georgia School of Technology to meet the expenses for admission of sub-apprentices. Mr. French has now given \$16,500 to the institution, having made the establishment of the textile school a possibility.

Mr. Anton H. Classen of Oklahoma City, Okla., has paid a visit to Charlotte, N. C., according to a dispatch from that city, to study cotton-mill building, as the company which he represents expects to build at Oklahoma City a cotton mill costing from \$100,000 to \$500,000.

The annual meeting of the Charlottesville (Va.) Woolen Mills was held last week. The company had a prosperous year's business. A 100-horse-power electric dynamo is being installed to supplement the present water-power plant, and this will add materially to the plant's capacity.

The Scotland Cotton Mill of Laurinburg, N. C., will build another yarn mill. This company just completed its 5000-spindle plant and commenced operations several weeks ago, and now has decided to duplicate its plant. Machinery for the second mill has been ordered, and as soon as it can be shipped will be placed. Plant will cost nearly \$100,000.

Charter has been granted to the Saxon Mills of Spartanburg, S. C., with capital stock of \$200,000. This is the company that has been formed by John A. Law, as recently reported, to build a 10,000-spindle plant. The incorporators are Messrs. John A. Law, H. E. Ravenel, John B. Cleveland, W. S. Manning, W. A. Law, Jos. Walker and F. L. Liles.

At Smithfield, N. C., the Smithfield Cotton Mill has been organized for the erection of a cotton mill, and will want the necessary machinery next autumn. The directors are Messrs. W. L. Woodall, J. A. Wellons, E. J. Holt, A. K. Smith, J. W. Stephenson, W. M. Sanders and S. S. Holt. The last named is secretary-treasurer, and Allen K. Smith is president.

The Twin City Knitting Mills of Winston-Salem, N. C., reported last week as incorporated, has an established plant with daily capacity of 200 dozen underwear. About forty hands are employed. The company intends to install bleach and dye house, with some new belting, shafting and wood-split pulleys, and is now in the market for necessary apparatus.

Messrs. W. T. Parham & Sons of Maryville, Tenn. (where they operate the Maryville Woolen Mills), have completed at Knoxville, Tenn., and put in operation their new mill. This mill will be known as the Riverside Woolen Mills, and it has fifty-five narrow and twenty-four broad looms in place, making jeans and fancy cassimeres, with eighty-five to 100 operatives employed.

The reorganized Walhalla (S. C.) Cotton Mills has awarded contract to Jas. R. Lawrence of Greenville, S. C., for the erection of an additional building 93x100 feet in dimension. This will give the mill floor space for 15,000 spindles and 500 looms. To the present 3328 spindles there will be added 6672, making 10,000 in all. The remaining 5000 spindles will be postponed to some future date; Edwin R. Lucas, president.

## COTTONSEED OIL.

### THE COTTON-OIL TRADE.

Importance to It of Measures Now Before Congress.

In the Manufacturers' Record last week were published letters from two leading cotton-oil companies, showing the importance to the South of the ratification of the proposed reciprocity treaty with France and the defeat of the proposition to destroy the manufacture of oleomargarine. In connection with these letters the Manufacturers' Record has received others. Mr. T. G. Hyman, manager of the New Berne (N. C.) Cotton Oil and Fertilizer Mills, in writing to Hon. Chas. R. Thomas, member of Congress from North Carolina, asks him to use his influence to have the reciprocity treaty with France ratified, and to oppose the proposed "unfair increased tax on oleomargarine," sends him the clipping from last week's Manufacturers' Record referring to the subject, and adds:

"The points made in these two letters regarding the two questions now before Congress are very concise. The cotton-oil industry has become one of great magnitude, and is of great value to the South, and any adverse legislation will not only affect the manufacturers, but, as you know, every farmer, and, in fact, I may say every man, woman and child in the South. It is a well-established fact that cottonseed oil and its by-products are very pure. I am told that a few years ago, when the cottonseed industry was in its infancy, several adverse bills were proposed in Congress, and that expert chemists were employed by Congress. Cottonseed oil and its by-products were analyzed, and it was clearly demonstrated that the bills were unjust, and they were defeated."

The Seneca Oil Mill of Seneca, S. C., writes:

"We concur exactly in the opinion expressed by the Charlotte Oil & Fertilizer Co. We have nothing to add to what has been said in the article referred to. It seems to us that legislation against the manufacturers of cottonseed products has been unwarrantably active, and we trust that the people may soon become so alive to the importance of the industry in which we are engaged that this legislative discrimination against us may have effective opposition."

Mr. W. M. Towers, manager of the Georgia Cotton Oil Co. of Rome, Ga., writes:

"We are heartily in favor of the proposed reciprocity treaty with France, especially so far as it relates to the cotton-oil industry, and hope no effort will be spared to secure its ratification by our Senate, as it means much to the South."

### Olive Crop Short.

Mr. Robert P. Skinner, United States consul at Marseilles, France, writes that the olive crop in Italy, France and Spain is practically a failure, and as compared with an average crop it will hardly reach 30 per cent., according to the estimates of well-informed judges. The Italian olives are the greatest sufferers, the South of France also being affected, and Spain in some localities. He adds that the upward tendency in prices is caused somewhat by the shortage in the cottonseed crop in America and a deficiency of oleaginous grains in Africa and India.

### Cottonseed-Oil Notes.

The Cotton Oil Refinery Co. of Jefferson, Texas, has decided to build at Alexandria, La., a cottonseed-oil mill of 100 tons daily capacity. The plant will be located at the junction of the Texas &

Pacific and Southern Pacific and Kansas City, Watkins & Gulf railways.

The foreign exports of cottonseed meal and cake from the port of Savannah during the year 1899 were valued at \$175,028, and of cottonseed oil \$169,425.

The Satilla Manufacturing Co. of Waycross, Ga., is considering plans for improvements to its present plant, and it is said will probably add a cottonseed-oil mill and ginnery during the present year.

The Excelsior Manufacturing Co. of Washington, Ga., made a shipment of ten carloads of cottonseed meal to Liverpool. The Excelsior Company is successfully operating a cotton-oil mill at Washington.

During the past week cottonseed products in Texas have scored a sharp advance. Cottonseed oil is now quoted at 29½ to 30 cents for prime crude, and 32½ to 33 cents for prime summer yellow f. o. b. mill at interior points in the State. Cake and meal delivered in Galveston is quoted \$21.50 to \$21.75 per ton, and linters 2½ to 2¾ cents. Very little cottonseed is being offered in the interior, but the business being done is on a basis of \$11 per ton interior points.

At New Orleans the past week has been quite an active one in cottonseed products. Values have advanced, and crude oil is very firm at the close. Many mills in the valley and in Texas will soon shut down, and buyers are plentiful, while offerings are light. Cottonseed meal and cake are selling well for export. Receivers' prices for products are as follows: Cottonseed, \$11 per ton (2000 pounds) delivered here; cottonseed meal jobbing at depot, \$21.25 per short ton and \$23 to \$23.50 per long ton for export f. o. b.; cottonseed oil, 28 to 29 cents per gallon for crude loose f. o. b. in tanks here; in barrels, 30 to 31 cents, and 34 cents for refined oil at wholesale and for shipment; oilcake, \$23.50 per ton f. o. b.; linters—A, 3½ to 4 cents per pound; B, 2½ to 3 cents; C, 2 to 2¾ cents; huls delivered at 20 cents per 100 pounds, according to the location of the mills.

### Enlarging Its Operations.

Mr. E. G. Coffman, president and general manager of the Georgia Handle Co. of Atlanta, Ga., confirming a report of his purchase of the B. E. Willingham Plow Co.'s plant at Macon, Ga., writes to the Manufacturers' Record that it is his intention to put up new buildings, increase the plant, erect a foundry and machine shop and begin operations as soon as practicable. He adds: "When the Macon plant is in operation we will be working about 100 men, and expect to run the plant the year round to its utmost capacity. I will also add box machinery to the woodworking department. The Georgia Handle Co. of this city, in which I am interested, is making some considerable improvements in the way of additional machinery and buildings, and we will also operate a box plant on the same ground as our handle factory."

The steamship Old Dominion, formerly used in the service between Richmond and New York by the way of the James river, has been sold to a company which is running it between New York and Boston by the way of Long Island Sound.

The Charlotte (N. C.) Chamber of Commerce has elected Messrs. S. Wittkowski, president; Dr. Joseph Graham, D. E. Allen and John M. Miller, Jr., vice-presidents; F. M. Shannonhouse, secretary, and T. S. Franklin, treasurer.

The contract for repairing the jetties and dredging the channel at Aransas Pass, Texas, has been signed by Clarke & Co. of Galveston.

## FOREIGN TRADE.

### Cotton Duck for Africa.

In addition to shipments of provisions and draught animals for South Africa, the United States will probably get the benefit of extensive orders for cotton duck for tents for the British army. The English government has been using flax and linen duck, but owing to the advance in price of the raw material is said to be considering cotton as a substitute. It is probable that Southern duck companies will have an opportunity to bid for some large contracts, as the production of this material in England is very limited. A shipment of 121 packages of cotton duck has already been made by the way of New York, its destination being Cape Colony.

### For Baltimore's Trade.

At the meeting of the Merchants and Manufacturers' Association of Baltimore President Summerfield Baldwin in his annual address took the ground that the association should make special efforts to build up the city's trade. President Baldwin advocates the building of the ship canal across the eastern section of Maryland, and is decidedly in favor of territorial expansion. Mr. Lloyd L. Jackson was elected president, and William T. Dixon, E. Stanley Gary, John R. Bland and J. Ross Diggs, vice-presidents. Mr. Wm. H. Jones was re-elected treasurer.

### Cattle for Cuba.

Capt. James McKay, formerly United States marshal for the southern district of Florida, and now engaged in cattle export trade, has shipped to Cuba since the close of the war against Spain in two steamers, the Fanita and the Highlander, about 24,000 head of cattle through Tampa and Punta Rassa and Miami, most of the cattle coming from South Florida. Most of these cattle have been sold on arrival for immediate consumption, as Havana alone uses nearly 6500 head a month.

### Coal to Northern Ports.

The Coastwise Steamship Co. of New York, it is understood, will succeed the Atlantic Transportation Co. in the business of shipping coal from Newport News to Northern ports. The company has contracted for several barges as well as two ocean tugs. One of the barges has recently been completed at Bath, Me., and has a carrying capacity of 3000 tons.

### Jottings at the Ports.

An indication of the exports of cottonseed meal from the South is given in the success of the Excelsior Manufacturing Co. of Washington, Ga., which recently made a shipment of ten carloads to Liverpool.

The Weldon (N. C.) Board of Trade is considering the formation of a company to operate a line of steamboats between Weldon and Norfolk by the way of the Roanoke river and the North Carolina sounds.

The schooner John P. Prescott was recently chartered to load 4200 tons of coal from Newport News for Providence, R. I. This is understood to be the largest cargo of coal ever taken from Newport News to an American port.

Rapid progress is being made on the terminal improvements of the Louisville & Nashville at Pensacola, Fla. As already stated, they will include a wharf 1500 feet long and 110 feet wide, to be covered with a warehouse two stories high. This will allow the loading of several additional steamships with grain and other export products.



## MECHANICAL.

**The Bliss-Heath Patent Low-Pressure Pumping Engine.**

The accompanying half-tones present three views of the Bliss-Heath vacuum or atmospheric pumping engine, built by the E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y. This pump is designed to raise water from street mains, wells or any other source to elevated tanks to fur-

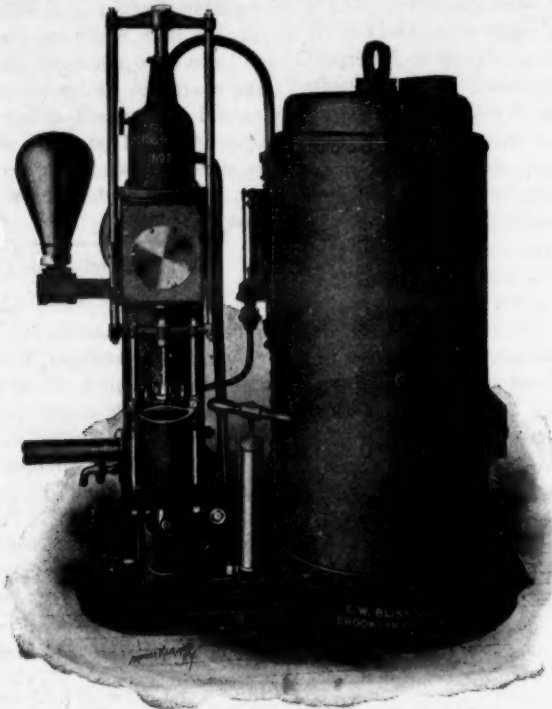


FIG. 1.

nish a never-failing supply of water for the upper stories of city buildings where the pressure is inadequate, and for country residences, barns, lawns, etc. The motor is novel and unique, consisting of a double-acting vacuum or atmospheric engine operating a double-acting water pump, a low-pressure tubular steel boiler loaded to one and one-half pounds steam pressure, a surface condenser and a single-acting air pump.

The motive power of the engine is the normal atmospheric pressure (14.7 pounds

below the power piston for either the up or the down stroke, breaking the vacuum and giving the piston the required impetus. The principle is the same as that of an ordinary condensing steam engine, except that to operate the Bliss-Heath engine only enough steam is required to be generated to balance the normal atmospheric pressure. The surface condenser and the air pump perform their usual functions.

The generator or boiler is exceeding

simple, having at the top a large opening, into which fits a light cover or safety-valve, like that of a teakettle. A very light pressure of steam suffices to lift the cover, affording a vent and making the generator absolutely safe from danger of explosion. The generator is fed automatically by means of the water-tank pressure. On account of the freedom from explosion of this engine, no licensed engineer or skilled mechanic is required to operate it. Anyone of ordinary intelligence can operate it with absolute safety

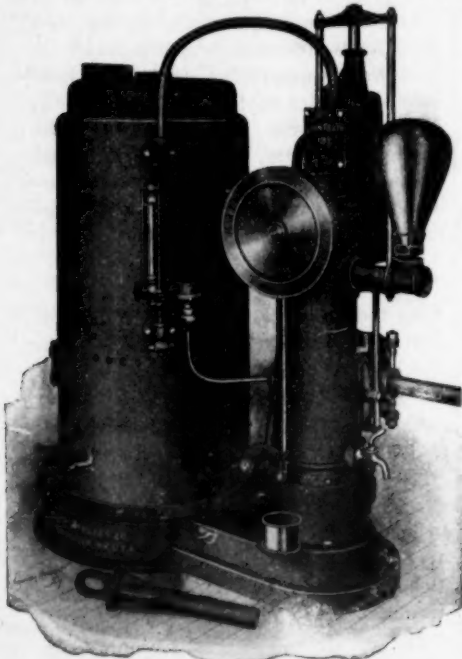


FIG. 2.

to the square inch) brought to bear upon the power piston by means of a vacuum formed in the power cylinder, alternately above and below the power piston. The air is expelled from the power cylinder by admitting steam without appreciable pressure, after which the steam itself exhausts into the surface condenser, in which a constant vacuum is maintained. Steam is then automatically admitted into the power cylinder, alternately above and

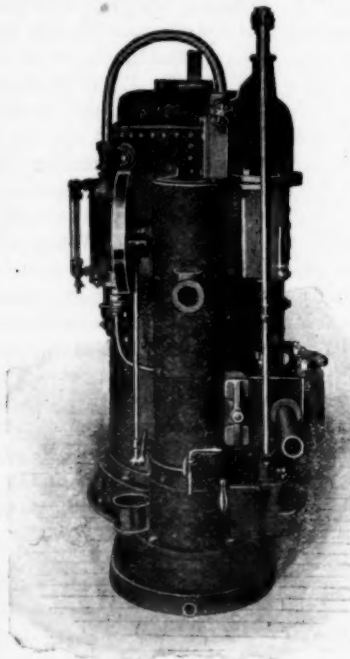


FIG. 3.

and efficiency. Only the same amount of knowledge that is required to build a fire in a stove is necessary to fire up the Bliss-Heath engine. Coal or wood may be used as fuel.

The Bliss-Heath pumping engine is claimed to be the only one that can be operated in connection with an ordinary low-pressure house-heating steam boiler, thus making the cost of operation practically nothing during the steam-heating

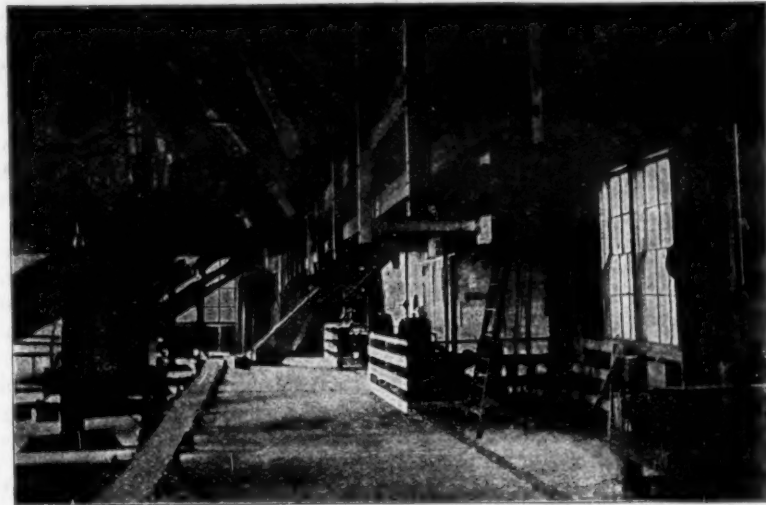
period, or seven months in the year. During the warm weather, and all the year where buildings are not heated by steam, the small steel boiler sold with the engine furnishes ample power at a minimum cost. The engine has about twelve times the power (corresponding piston areas), is one-third lighter and occupies no more floor space than the hot-air pumping engines of various types. The engine is self-oiling, and, steam and water being themselves good lubricants, there is never any "gumming up" to clog the machinery and impair its efficiency. There are no heater pots or packings to "burn out," and the machinery is not liable to derangement. Its wearing parts are heavy, durable,

from the threshers, carrying them to the opposite side, where an elevator takes them and delivers the same to the washers, while conveyors and picking bands are located in connection with this apparatus at other points, making it one of the most complete systems extant.

The Jeffrey Manufacturing Co. of Columbus, Ohio, designed and equipped this plant, and will be pleased to send descriptive catalogues of its manufacture to interested parties.

**New Street-Railway Generator.**

"What is worth doing at all is worth doing well" is a maxim that has been con-



INTERIOR VIEW OF PEA-CANNING PLANT AT ALGOMA, MICH.

simple, reliable and interchangeable. An important feature of the pump is that it never "pounds," and is practically noiseless.

The pump is made at present in a number of sizes from 300 up to 3000 gallons per hour fifty feet high, or corresponding quantities a greater or lesser height than fifty feet. The maker is at work on larger sizes suitable for railroad tank pumping, etc.

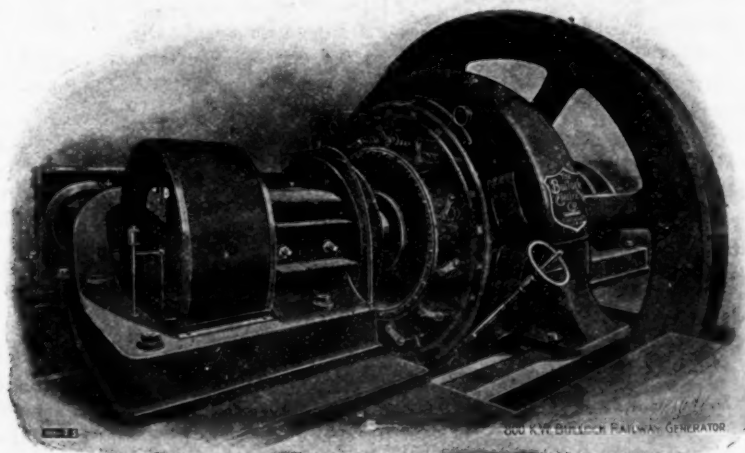
**Conveying Machinery for Canneries.**

The accompanying illustration is a view of the interior of a plant at Algoma, Mich., one of the largest pea-canning establishments in this country. Its large

stantly observed by the Bullock Electric Manufacturing Co. of Cincinnati during the ten years of its existence. As a result, Bullock motors and generators have become famous the world over as being thoroughly reliable and up to date. The company's business increased to such an extent that it was determined to erect new works, which from the present outlook will soon have to be enlarged.

Encouraged by this success, the company has now determined to enter the railway field. To this end a complete line of engine-type railway generators has been designed up to and including 800 kilowatt unit.

Bullock railway generators will possess all of the features that have made its



NEW STREET RAILWAY GENERATOR.

output is made possible through its adoption of a complete system of Jeffrey conveyors, picking tables, cooling conveyors, bleaching-tub conveyors, pea-vine conveyors and can elevators and conveyors. The peas are practically handled by this machinery from the time they are received from the field until ready for shipment.

Owing to the confined position of the machinery, this illustration gives but a vague idea of the interior of this plant. The horizontal belt conveyor in the foreground near the floor receives the peas

present standard machines so popular, and also some new features that cannot be found in other machines.

Among the more important may be mentioned a scheme for oscillating the brush-holder mechanism in a direction parallel with the shaft. The movement is very slow, and results in constantly changing the line of travel over the commutator face and thus removes all tendency to cut or groove the latter. The action is the same as secured by the end play of an armature in a belted generator or that produced by the electro-magnetic



device used at the end of shaft on rotary transformers, and which is recognized by engineers as a means of greatly prolonging the life of the commutator.

The pole pieces and coils may be removed without disturbing the yoke or armature, and with two of them removed it is possible to remove one or more armature coils should repairs be necessary.

The armature coils are made of continuous bars of copper without joints between the commutator connections, which materially adds to the life of the machine. These coils are all thoroughly insulated, pressed and baked before being placed on the core, no additional core insulation being necessary.

All armatures are thoroughly ventilated by slots perpendicular to the shaft, through which the air rushes when the machine is in operation.

A liberal rating permits of constant operation at full load with low temperature rise.

An 800-kilowatt machine has been sold to railway in Oakland, Cal., and is shown in the engraving. This machine operates at a speed of 80 R. P. M., and at this speed develops 550 volts at no load.

It is overcompounded for a rise of fifty volts at full load, making the full-load voltage 600.

Bullock railway generators are fully described in Bulletin No. 1334, sent on application.

#### For American Manufactures.

Ralph H. Waggoner, manager of the Western office of the National Association of Manufacturers, has begun a tour of the South for the purpose of enlisting more thoroughly the manufacturers of that section in the work which the association is doing for the advancement of American industry and commerce. His first stop was at Richmond, Va., where he secured membership in the association of the Richmond Cedar Works, the Old Dominion Iron & Steel Co. and the Richmond Locomotive and Machine Works. He has had an exceedingly cordial reception thus far on his trip, and has met with great encouragement.

#### Building in 1899.

Official statistics from twenty-one leading cities in the United States published by the Construction News show that the cost of new buildings in 1899 was \$299,900,000, an increase of more than \$66,000,000 over 1898. Of course, New York led, with 8288 buildings costing \$136,437,810. Among the other cities mentioned are: Washington, with 2711 buildings, costing \$6,041,643; Kansas City 3695 buildings, costing \$4,160,700; New Orleans 1609 buildings, costing \$1,779,405, and Atlanta 2125 buildings, costing \$1,293,997.

#### To Increase the Output.

The Monongah Company, which owns over 20,000 acres of coal land along the Monongahela River Railroad in West Virginia, has leased a portion of its property to various companies, which it is calculated will increase the production of its yield to about 5,000,000 tons annually. One transfer represented about 3000 acres to a syndicate which, it is stated, will open mines with a capacity of 500,000 tons annually.

The Weldon (N. C.) Board of Trade has appointed a committee to ascertain the cost of a steamboat with capacity of 250 bales of cotton to run between Weldon and Norfolk.

The Business Men's Club of San Antonio, Texas, has elected H. M. Aubrey, president; Frank Arnold and Albert Joske, vice-presidents.

## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

### LUMBER MARKET REVIEWS.

#### Baltimore.

Office Manufacturers' Record,  
Baltimore, Md., January 18.

The local lumber market has been only moderately active in many departments during the past week, but the situation possesses many favorable features. Prices for all grades of good lumber continue very steady, with no indication of any perceptible easy tendency to values. The demand locally is generally light, and the usual buyers are not increasing their stocks to any material degree. Yardmen are well supplied at the moment, and box-makers are supplying their wants as the occasion requires. North Carolina pine is in moderate supply, except in air-dried lumber, which is fully ample to supply present wants. There is a good inquiry for kiln-dried North Carolina pine, and both domestic and foreign orders are coming to hand freely. The situation in white pine is unchanged; values are remarkably steady, and there is a good demand from local and out-of-town buyers. Cypress is steady, with a limited inquiry. The demand for hardwoods continues, and among the various commercial woods poplar is selling well, with prices firm, and ranging a shade higher. There is a good demand for oak, and wagon shops and other woodworking concerns are taking quantities of ash. Furniture manufacturers from out of town have been good buyers during the week. The foreign export trade is looking up, and exporters have a fair share of business, when later on the volume of shipments are expected to show more expansion.

#### Charleston.

[From our own Correspondent.]  
Charleston, S. C., January 15.

Lumbermen in this section seem to be preparing for an active campaign during the winter and spring months, and the improvements in saw-mill plants and new enterprises in woodworking seem to indicate a very busy season in all sections of the State. Saw-mills are being erected at various points, and all seem to be well supplied with orders. There is a good demand for all the output, and at prices which show a fair margin of profit to the manufacturer. At Georgetown the lumber industry is booming, and both cypress and yellow-pine shipments are heavy, and if handy-sized vessels could be obtained the shipments would be much heavier. Valuable timber lands in this section have been selling freely recently, and values are advancing; in fact, all choice timber territory adjacent to this city is held by manufacturers. During the past week the following shipments were reported: Schooner Mary E. Judge with 387,000 feet of lumber and schooner Linah C. Kaminski with 300,000 feet, both for New York. The steamship Navahoe cleared for Boston with 58,925 feet of lumber. There is a good demand for shingles, and prices are firm at \$4 to \$7, with shipments from this point and Georgetown larger than usual. Lumber freights continue steady, with rates unchanged. The schooner G. H. Brown was chartered last week to load crossties here for New York at 25 cents ex wharf. Rates on lumber to New York and Sound ports vary from \$7.50 to \$8, and Boston \$8.25.

#### Savannah.

[From our own Correspondent.]  
Savannah, Ga., January 15.  
The volume of business at this port is

showing a material increase over other years, and the foreign business is especially active for so early in the year. In the lumber industry there seems to be no cessation in the urgent demand for Georgia pine, which has been quite active since the beginning of last year. Reports from interior towns in this State are very favorable; real estate everywhere is improving, and the building trade in all towns and cities is improving, with a good local demand for material. Stocks of lumber at all milling sections are very light, and are not allowed to accumulate. Orders are plentiful with all the mills, and prices seem to be quite as firm as at any time last year. During the past week the shipments of lumber from this port amounted to about 3,000,000 feet, and from Brunswick shipments of lumber and timber indicate a large volume of trade so far this year. The foreign demand for lumber and timber is improving, and at Brunswick and Darien orders are coming in quite frequently from abroad. The scarcity of desirable vessels restricts business at the moment, but later on berth room will be more plentiful and likely at much lower figures. Two vessels were chartered last week to load ties at Brunswick for New York at 25 cents; schooner Maggie M. Keough, 489 tons, to load lumber at Darien for Norwich at \$8.12½; schooner Gertrude Abbott, 528 tons, Brunswick to Philadelphia with lumber at \$7.87½, option of New York at \$8, and schooner Alice Archer, Savannah to New York at \$7.50, and a vessel to Philadelphia at \$7.

#### Mobile.

[From our own Correspondent.]

Mobile, Ala., January 15.

In both the lumber and timber industry of this section values hold very steady, and the volume of business in lumber is greater than at any time during the last half-year of 1899. There is a decided demand from South American ports, and a good business with Cuba, while Great Britain and the Continent are good buyers. Saw-mills here and at adjacent points in this State and Mississippi are all rushed with orders, and stocks are light, and are not allowed to accumulate. During the past week the shipments aggregated 4,853,500 feet, of which 2,500,000 feet went to South American ports, 1,288,480 feet to Germany, 510,000 feet to Cuba, 341,541 feet to New York and the balance to Central American ports. The total shipments of lumber from this port since September 1 amount to 52,381,811 feet, against 20,594,575 feet last season. Quotations of hewn and sawn timber are shaded lower, but steady, on a basis of 14 to 15 cents per cubic foot for hewn and 15 to 15½ cents for sawn timber. There is a good demand for hewn oak at 15 to 18 cents per cubic foot, and for hewn poplar at 12 cents per cubic foot. The timber market is not active, but values continue to assume a definite tone, and stocks are generally light, with the business for the new year not fairly opened. The advices from Europe are encouraging. The London Timber Trades Journal of the 6th has the following in reference to the situation: "Business has resumed its activity, and the holidays being at length over, trade is again running smoothly. F. o. b. operations have been carried on briskly, and it is stated that one firm of agents alone has already sold 100,000 standards of sawn and planed wood. Despite the costliness of materials just now, building reports from the provinces are highly satisfactory, and the yards fully occupied in meeting the demand for sawn and planed wood. Chartering has hardly begun yet, but freights show a rising tendency for spring business, more especially for ports rather out

of the track of the great coal districts, but it is rather early yet to define the demand for tonnage on which the course of the freight market depends. There is a general feeling of security predominating the trade on this side, and the slight uneasiness caused by the enhanced rate of discounts has subsided, the banks being fairly liberal with customers who want cash for bills. The position in the mahogany and hardwood trade remains unchanged, and until the public sales are resumed next week it is impossible to foretell which way prices may trend. At the last sales the market was steady, with a quiet tone natural to the advanced period of the year."

#### Beaumont.

[From our own Correspondent.]

Beaumont, Texas, January 15.

The volume of trade in all commercial and industrial avenues in this section is very satisfactory, and the new year has opened with a most encouraging outlook for this city and adjacent points. Of the primary industry of lumber the demand continues very steady, and manufacturers generally have their old year's business settled and the books of the new year opened. Inquiries are to hand from dealers in the State and from points in the Northwest in regard to 90-day shipments, and some at four and six months. Manufacturers are very decided in their views, and refuse business except for prompt or near deliveries. There is a good demand for all classes of timber, crossties being in good request for immediate shipment. There is also a brisk call for all classes of railroad timber. For the foreign export trade the demand for timber is urgent, and outside prices are obtained for German strips. Among the latest improvements and enterprises recorded is a new mill to be built in Jasper county by a manufacturer from Orange, with his principal offices in this city. Parties, it is said, from this city have also purchased the timber holdings of George Adams of Jasper county, containing 8000 acres of yellow pine. The mill to be erected on this property will have a capacity of 50,000 or 60,000 feet a day, and the company yet to be organized will have its principal offices here. The foreign export business through Sabine Pass is now showing up in better volume. Six sailing vessels were in port last week taking on cargoes of lumber for foreign and coastwise ports. There is every indication that shipments of lumber and timber out of Sabine Pass in the next sixty to ninety days will be larger than at any time during the past year.

#### Lumber Notes.

The Schurman Fall Lumber Co. of Houston, Texas, has been incorporated, with a capital stock of \$25,000.

The heavy rains of last week have swollen all the streams in Eastern Kentucky, and a log tide in the Kentucky river is expected.

A prominent citizen of Middle Tennessee was in Chattanooga last week in consultation with local parties relative to the establishment of a veneering plant in that city.

Heavy rains prevailed last week in the vicinity of Slidell, La., and every creek and bayou is about to overflow, giving the logmen an opportunity to get out timber that has been hung up for many months.

Messrs. E. E. Price & Bro. of Baltimore, Md., exporters of hardwoods, have issued their calendar for 1900. For a purely artistic and finished lithographic production it ranks among the choicest calendars received this year.

It is stated that J. H. Reese of the Indiana Tie & Lumber Co. visited Memphis



last week for the purpose of looking up timber tracts and buying timber lands. Mr. Reese is negotiating for valuable timber tracts in Tennessee and Arkansas.

Messrs. Compton & Lucas of Chauncey, Ga., have just shipped from their milling plant eight pieces of pine timber, which averaged 1750 feet to the stick. The timber is for the United States government, and goes to the navy-yard at Fort Smith, N. H.

It is stated that a large Chicago firm has purchased from Major James E. Negus of Greenville, Miss., the extensive plant of the Leavenworth Saw-Mill Co., and that they will take possession at once and operate the big mill at its full capacity.

A charter has been granted to the Snow Lumber Co. of High Point, N. C., with a capital of \$100,000. The stockholders are E. A. Snow, E. A. Bencial, R. F. Dalton and J. E. Kirkman. The company will manufacture furniture, erect buildings, etc.

The B. H. Edwards Co. of Macon, Ga., has been incorporated, with a capital of \$10,000. The company will manufacture and sell barrels, barrel heads, staves, boxes, etc. The incorporators are B. H. Edwards, Lewis A. Wood and W. N. Fleetwood, Jr.

The Middle Mountain Lumber Co. of Piedmont, W. Va., has sold its mill and 20,000 acres of timber land in Tucker county to Jennings Bros. of Pennsylvania. The land lies on Laurel and Gladys forks of the Cheat river, and is considered quite valuable.

The Collins-Offutt Company of Welch, W. Va., has been incorporated for the purpose of doing a general timber business. The authorized capital is \$100,000. The incorporators are M. N. Offutt, B. B. Burns and C. L. Ritter of Welch, W. Va., and W. G. Offutt of Asheville, N. C.

The Reliance Lumber Co. of Beaumont, Texas, has sold to Mr. John Kirby of Houston, Texas, a large body of timber land in Jasper and Newton counties, Texas, for a consideration of \$285,000. It is understood that this tract of land is estimated to yield 300,000,000 feet of timber.

Mr. J. R. Dewing of Kalamazoo, Mich., has sold to the West Virginia Pulp & Paper Co. of Piedmont, W. Va., 60,000 acres of timber land lying in Randolph county. It is said that the price paid was \$585,000. The timber will be shipped to Davis, W. Va., Luke, Md., or Covington, Va.

The Mechanics, Dealers and Lumbermen's Exchange of New Orleans at its meeting last week elected the following officers: President, John Malone; vice-president, W. S. Delaney; treasurer, F. J. Mathew. Mr. Charles Dirmeyer was honored with re-election as secretary for the twelfth year.

The Piedmont Lumber Co. of Charlotte, N. C., has completed its organization and will at once commence the erection of its plant. The mill will have a capacity of 30,000 feet a day, and the output will consist largely of hardwoods. In addition to the saw-mill, there will be a planing mill and dry-kilns equipped with all modern appliances.

The annual meeting of the stockholders of the Tunis Lumber Co. was held last week in Norfolk, Va. All the old officers save in one instance were re-elected, the exception being that G. M. Serpell was made a director in place of E. L. Tunis. Among those in attendance at the meeting were Samuel Eccles, Jr., R. Oathcart, Theophilus Tunis and H. Clay Tunis of Baltimore.

Capt. E. J. Kellie of Jasper county, Texas, has sold to parties in Beaumont, Texas, the timber holdings in Jasper county of George Williams. The tract includes 8000 acres of valuable yellow pine near Kirbyville, on the Gulf, Beaumont & Kansas City Railroad. The purchasers will erect a 50,000 or 60,000 feet per day mill, to be operated by a company yet to be organized.

The Southwestern Tie & Timber Co. has been incorporated, with headquarters at Houston, Texas. The capital stock is placed at \$50,000. The officers of the company are Sam A. McNeely of Jefferson, Texas, president; O. C. Drew of Houston, treasurer; while Messrs. McNeely and Drew, with Mr. James Irvine of New York, constitute the board of directors. The company will build the necessary plant for creosoting and burnetizing pine ties, piling and timbers, and in addition to this will make a prompt market for the oak which is abundant in East Texas.

The Sawyer & Austin Lumber Co. and Pine Bluff & Western Railway Co., two separate organizations, effected a permanent organization at Pine Bluff on the 10th inst. The following officers were elected: W. W. Cargill, president; D. A. Kendall, vice-president; S. H. Russell, secretary; John H. McMillan, treasurer. The lumber plant will commence operations some time in March next. The railroad will develop a hitherto unopened portion of Arkansas, and will run daily passenger trains. The president of the organization will remain at La Crosse, Wis., and the vice-president will look after the company's interests with headquarters in Kansas City.

In its annual review of the condition of the white-pine lumber trade the American Lumberman of Chicago says: "The total stocks at the mills on December 1, 1899, amounted to 2,728,271,000 feet, as against a total on the same date a year previous of 3,494,739,000 feet. Thus an aggregate shortage existed at that date of 766,468,000 feet. On December 1, 1897, the total stocks at the mills amounted to 3,915,558,000 feet, or larger than the stock of last year by 1,187,287,000 feet. In 1895 the total stock was 4,180,360,000 feet. The stock on December 1 was the lightest known in many years since 1890. This decrease in stock applies to nearly every district, and is about evenly divided between the Western and Eastern territory."

Representatives of nearly all the large cypress manufacturing concerns on the coast met in Savannah, Ga., on the 10th inst. for the purpose of organizing for their mutual profit and protection. The companies, firms and individuals represented at the meeting were as follows: Santee River Cypress Lumber Co., Ferguson, S. C.; Wilson Cypress Co., Palatka, Fla.; Cypress Lumber Co., Apalachicola, Fla.; Hilton & Dodge Lumber Co., Brunswick, Ga.; Butters Lumber Co., Boardman, N. C.; Batchelor Cypress Lumber Co., Panasoffkee, Fla.; Seminole Cypress Co., Jacksonville, Fla.; Eddy Lake Cypress Co., Port Harrelson, S. C.; H. P. Smart, Savannah. Mr. H. A. Batchelor of the Batchelor Cypress Co. was made chairman of the meeting, and Mr. F. R. Seely of the Santee River Cypress Co., secretary. The purposes of the association are to place each member in touch with the condition of the cypress lumber market and have a central point where they may discuss with each other the best methods of rendering the business profitable. The present officers will act until the election of permanent officers, when the association is formally organized on February 21 next.

## PHOSPHATES.

### Phosphate Markets.

Office Manufacturers' Record, Baltimore, Md., January 18.

The movement in phosphate rock in a local way has been fairly active during the past week, and the market is very steady. Fertilizer factories are placing their orders for rock more freely than last month, and during the week considerable Tennessee and South Carolina phosphate rock has been sold. The industry at all points in the Southern phosphate belt is in a most satisfactory shape. Miners in all sections are working vigorously and increasing the output. In South Carolina business is fair, and the demand good, both from domestic and foreign sources, while prices continue steady. Florida miners enjoyed a good year's business in 1899, and the new year has opened under very favorable conditions. Miners are having good weather, and with all the modern appliances at hand their various plants are being worked most successfully. Prices continue firm, with a tendency to advance in the near future. Orders from Europe have been coming in so far this year very freely, and some large contracts will be filled during the next sixty days. The market in Tennessee continues firm for high-grade phosphate rock, and at Mt. Pleasant shipments have been very heavy so far this month. Prices have undergone no change during the past week. The only charter reported during the week was the schooner Frances M., 1096 tons, from Port Tampa to Philadelphia with phosphate rock on private terms.

### Fertilizer Ingredients.

The demand for ammoniates is fair, and prices in all lines very firm. Blood and tankage are both higher. The demand from Eastern buyers is not quite so decided, but still there is a fair business with that section. The South is still buying. Western holders are firm in their views, and prices in that section stiff. Sulphate of ammonia is firm and higher. Nitrate of soda is steady.

The following table represents the prices current at this date:

Sulphate of ammonia (gas).....	\$2 92 1/2 @ 2 95
Nitrate of soda.....	1 35 @ —
Blood.....	2 25 @ 2 27 1/2
Hoof meal.....	1 90 @ 1 95
Azotine (beef).....	2 10 @ —
Azotine (pork).....	2 10 @ —
Tankage (concentrated).....	2 02 1/2 @ 2 05
Tankage (9 and 20).....	2 10 @ 2 15
Tankage (7 and 30).....	17 50 @ 18 00
Fish (dry).....	20 00 @ —
Fish (acid).....	12 00 @ —

### Phosphate and Fertilizer Notes.

The high-grade Florida phosphate rock exported from Savannah, Ga., during the year 1899 was valued at \$1,007,887.

The whaleback steamer City of Everett arrived at Port Tampa last week, and will load a cargo of 4000 tons of phosphate rock for Cartaret, N. J.

The schooner Susie H. Davidson, with 800 tons of phosphate rock, and the Mary E. Curtis, with 565 tons, cleared from Charleston, S. C., last week for Baltimore.

Walter Bailey of Spring Hill, Tenn., is said to have purchased 400 acres of phosphate lands at Gallatin for \$12,000. The purchase was made of the Gallatin Phosphate Co. The property adjoins the tracts of the Sumner Phosphate Co.

J. C. Wall and associates of Pennsylvania, New York and Tennessee have secured 1500 acres of phosphate lands near Franklin, which they will develop. The company has applied for a charter, with a capital of \$125,000. A modern phosphate-mining plant will be erected.

It is stated that Captain Cook, representing a St. Louis syndicate, who has been prospecting in Jackson county, Ten-

nessee, has discovered phosphate rock on the lands of Asa Johnson, in the ninth civil district of Jackson county. It is believed that the phosphate is in paying quantities.

### GENERAL NOTES.

#### Brief Mention of Various Matters of Current Interest.

The Louisville (Ky.) Commercial Club intends to revive the project of a State Commercial League.

The Savannah Naval Stores Co. handled last year 75,000 casks of spirits and 260,000 barrels of resin.

It is estimated that during 1899 1,571,570 tons of pig-iron were shipped from Alabama and Tennessee.

The New Orleans Board of Trade has elected Col. Udolpho Wolfe, president; J. H. Lafaye, John Fennelly and Henry Kahn, vice-presidents.

The Chattanooga Chamber of Commerce has elected A. S. Glover, president; George W. Ochs, vice-president; E. F. Sevier, treasurer, and B. L. Golding, secretary.

In his annual message to the city council of Nashville, Mayor Head recommended an issue of \$500,000 worth of bonds to complete the sewerage system of the city.

The output in the Joplin (Mo.) district for the week ended January 13 was 7,342,020 pounds of zinc ore and 1,044,580 pounds of lead ore, valued in all at \$144,576.

The Norfolk Board of Trade has elected Col. H. C. Hudgins, president; W. H. Wales, Jr., and C. W. Fentress, vice-presidents; E. E. Dawes, secretary, and E. F. Atkinson, treasurer.

It is thought that the construction of the large floating dock for the government at Algiers, La., will be completed by November. The dock will be 225 feet long, 100 feet between the walls, 28 feet draft and will lift 18,000 tons in three and one-half hours.

The Richmond (Va.) Chamber of Commerce has elected Messrs. L. Z. Morris, president; H. L. Cabell, Henry Lee Valentine, vice-presidents; R. A. Dunlop, secretary, and John H. Montague, treasurer. The election marked the union of the Young Men's Business Association and the Chamber of Commerce.

Good reading for the new year predominates in the January issue of The Cosmopolitan. Among the sixteen well-known writers who have contributed to its pages are A. T. Quiller-Couch ("Q"), with a stirring bit of fiction entitled "The Lady of the Ship;" John Luther Long, who has furnished a story in a new field, which he entitles "Dizzy Dave;" Kirke La Shelle, who tells of the tricks of "The Theatrical Advance Agent," and Seumas MacManus, who brings forth another of his clever Irish stories under the title of "Patrick's Proxy."

Justice Cox's Calendar.—Users of ores, railway equipment, iron and steel or similar products of the industrial world will find of especial interest the 1900 calendar issued by Justice Cox, Jr., & Co., Limited, of 552 Bullitt Building, Philadelphia, Pa. This company has presented a calendar that suffices for every purpose such an article is intended for. It is well printed with handsome type, and, moreover, on its reverse side gives a quantity of useful information regarding construction of railroads, materials for track construction, concerning different weights and sizes and shapes of iron and steel, etc. All parties requiring materials in the company's line are invited to request a calendar.



# CONSTRUCTION DEPARTMENT.

**THE MANUFACTURERS' RECORD** seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

At Dover, Del., has been chartered the Standard Square Bale Compress Co., to deal in cotton presses, etc.; capital \$300,000; incorporators, D. T. Alger, W. S. Watson, E. H. Watson, all of New York city; C. J. Luce of Niantic, Conn.; J. Virdin of Dover, Del.

## ALABAMA.

Anniston—Knitting Mill.—The Louisville & Nashville Railroad Co. is negotiating with representatives of a company that contemplates erecting a branch knitting mill in the South. W. E. Knox, local superintendent, is interested in arranging the deal.

Anniston—Iron Mines.—The Randolph Mining Co., recently formed, intends to develop brown-ore mines, mining 100 tons daily; within sixty days it is expected to have a daily output of 250 to 300 tons; will probably construct tramways to two of the mines, but no washers at present; Ray Randolph, manager.

Athens—Flour Mill, etc.—The Athens Milling Co., reported last week as incorporated, will build a flour mill of fifty barrels daily capacity, with corn and feed-mill equipment also; R. N. Cartwright, president.

Bessemer—Rolling Mill.—It appears almost certain that the Republic Steel & Iron Co. has purchased and will operate the Bessemer Rolling Mill. (See item anent this company under Birmingham.)

Birmingham—Electrical Construction, etc.—The Alabama Supply Co., mentioned last week as incorporated, succeeds the Alabama Gas Fixture & Plumbing Co. in the business indicated by latter's title; in addition, the Alabama Supply Co. will do contracting in electrical appliances, etc.; capital stock is \$25,000, and forty-six men are employed; Gus Colvin, president.\*

Birmingham—Iron Furnaces, etc.—A dispatch states that the officials of the Republic Steel & Iron Co. have returned West after an inspection of their Alabama properties, and that it is gathered from what they said that the following improvements are to be made: An additional blast furnace at Thomas, machinery, etc., for which has been ordered, with still another furnace to be built as soon as this one is completed, and the erection of a \$1,000,000 steel mill, the steel mill to be built not in the distant future; it also appears almost certain that the Republic Company is the purchaser of the Bessemer Roll-

ing Mill and will operate that plant; company's Southern office, Birmingham; Sllas J. Llewellyn, secretary, Chicago, Ill.

Birmingham—Soll-pipe Works.—F. E. Glenn of St. Charles, Ill.; C. A. Day of St. Charles, Ill.; J. F. Hatcher of Columbus, Ohio, and H. K. Spencer of Chester, Ill., representing themselves and associates, have bought the Baxter Stove Works, consisting of land, buildings, machinery, etc., and will at once convert the plant into a soll-pipe works to employ 100 to 150 hands; the first investment will be \$50,000; the plant will daily consume forty tons of pig-iron; it is probable the parties will add the manufacture of iron kettles and other hollowware later.

Gadsden—Iron Furnace.—The Alabama Consolidated Coal & Iron Co. has completed the improvements that were under way at Gadsden furnace, and blew in the plant this week; capacity 150 tons daily. Furnace No. 2 at Ironaton is undergoing repairs, and will be ready for operation by May. Mary Pratt furnace at Birmingham will be repaired and put in blast as soon as the necessary machinery can be secured; T. G. Bush, Birmingham, president.

Greensboro—Electric-light and Water Plants.—Jas. E. Webb of Birmingham, Chas. E. Waller and L. L. Webb of Greensboro have organized the Greensboro Water & Light Co.; capital stock \$30,000; will put electric plant in as soon as necessary machinery can be obtained.

Gurley—Telephone System.—P. T. Farnsworth, W. B. Swaney and others have been granted franchise for installation of telephone system.

Huntsville—Saw-mill.—The Alabama Lumber Co. will own and operate the saw-mill lately mentioned as to be built for operation in connection with the Huntsville Furniture Factory; capacity will be 25,000 feet daily.

Jenifer—Charcoal Furnace.—The Jenifer Furnace Co., W. H. Weller of Gadsden, Ala., president, will blow in its charcoal furnace (lately reported) about January 20. The company has purchased 480 acres of coal land in Jefferson county and leased the New Connelville coke ovens in the same section, and will develop the coal lands and operate coke ovens, using charcoal for the Jenifer furnace for the present.

New Castle—Coal Mines.—The Hunter Coal & Coke Co. (reported during the week as incorporated) will develop 600 acres of coal lands; W. H. Hunter, president, Birmingham, Ala.

Opelika—Electric-light and Power Company.—The Alabama Electric Light & Power Co. has been incorporated, with capital stock of \$50,000, to conduct general electric-light and power business, by H. S. Parsons, T. S. Parsons, H. C. Davidson and others, all of Montgomery, Ala.

Sheffield—Water Works.—The city contemplates the construction of a system of water works, and is desirous of corresponding with competent engineers. Address Al Goldman, secretary of committee.\*

Trussville—Iron Furnace.—Perry Bros. of Birmingham have blown in the Trussville furnace, which they leased several months ago; furnace has been overhauled and modernized; capacity 150 tons daily.

## ARKANSAS.

Waldron—Flour Mill, etc.—It is reported that about \$100,000 will be invested in the erection of a flour mill and a planing mill. Names of interested parties will be announced later.

## FLORIDA.

Jacksonville—Saw-mill.—The Chicago Lumber & Coal Co., principal office in St. Louis, Mo., will establish a branch of its business in Jacksonville (as stated last week), with a capital stock of \$1,000,000. The company will erect a mill in Jacksonville, also at some point in Georgia. J. C. McEachern is the Florida and Georgia manager, and is established in Jacksonville.

Jacksonville.—Incorporated: The Doty & Stowe Co., capital stock \$100,000; Clarence T. Doty, president.

Stetson—Starch Factory.—The Seminole Manufacturing Co. has completed its cassava starch factory and is about to commence operations.

Tallahassee—Drainage, etc.—Incorporated: The Lake Tracy Drainage & Improvement Co. to improve lands, build railways, etc.; incorporators, W. B. Pierce, J. J. Vinzant and B. F. Colcord; capital stock \$50,000.

Tallahassee—Drainage and Improvement

Company.—The Lake Tracy Drainage & Improvement Co. has been incorporated, with capital stock of \$50,000, by William B. Pierce, James J. Vanzant and Benj. F. Colcord.

Tampa—Cigar Factory.—H. H. Stadaker of Chicago, Ill., and Jose De Armas will establish a cigar factory.

Watertown—Lumber Mill.—The East Coast Lumber Co. is building an addition that will increase its mill's capacity by 50 per cent.; present capacity 150,000 feet daily.

## GEORGIA.

Americus—Telephone System.—The Southern Bell Telephone Co. will improve its system, rebuilding on a metallic basis; J. E. Brown, local manager.

Atlanta—Cotton Mill.—George A. Gray of Gastonia, N. C., has contract to build and equip a 10,000-spindle mill with looms for the George W. Scott Investment Co. at Atlanta. Name of mill will be the Ingleside Mills.

Atlanta—Telephone System.—Charles J. Haden will apply for charter for the Commercial Telephone & Telegraph Co., capital stock \$100,000. Mr. Haden represents F. M. Farley, J. R. Wright, C. H. Johnson, R. N. Berrien, E. M. Smith and C. J. Haden of Georgia, Geo. F. Craig of Pennsylvania and J. L. Hamilton of Illinois.

Atlanta—Handle Factory.—The Georgia Handle Co. (E. G. Coffman, president; see item under Macon) will make considerable improvements in the way of additional buildings and machinery, including a box plant.

Cedartown—Iron Furnace.—The Alabama & Georgia Iron Co. does contemplate the erection of an entirely new furnace, as stated recently; Eugene Zimmerman, president, Cincinnati, Ohio.

Columbus—Power Plant.—The Columbus Power Co. will increase its capital stock from \$200,000 to \$300,000, and expects to have its plant completed about May 1.

Dahlonega—Gold Mines.—The Crown Mountain Gold Mining Co., capital stock \$2,000,000, has been incorporated to develop gold mines; president, Gen. A. J. Warner of Marietta, Ohio; vice-president, Judge W. W. Murray of Tennessee. Col. J. F. Moore of Dahlonega will be local manager, and can be addressed.

Dalton—Coffin Factory.—The Dalton Coffin, Casket & Manufacturing Co., capital stock \$15,000, has been incorporated to establish the factory mentioned last week as proposed by Sam P. Maddox and others; incorporators, Sam P. Maddox, J. W. Oglesby, M. F. Piner, J. H. Smith and others.

Griffin—Knitting Mill.—A company will be organized, with capital stock of \$30,000, to build a knitting mill. J. D. Boyd, J. J. Mangham, Douglas Boyd and J. W. Mangham are interested.

Harlem—Cotton Mill.—It is reported that a \$75,000 company has been organized to build a cotton factory; names of interested parties later.

Louisville—Telephone System.—The Waynesboro (Ga.) Telephone & Telegraph Co. is extending its lines to Louisville, and will there build an exchange.

Macon—Wheel Factory.—The Roush Wheel Works has been incorporated, with capital stock of \$25,000, and established plant of fifty sets capacity daily.

Macon—Plow Works.—E. G. Coffman of Atlanta has purchased the B. E. Willingham Plow Co.'s plant in Macon, as recently reported. He will erect new buildings, build foundry and machine shop and otherwise increase the plant and put it in operation as soon as practicable; also will add box machinery to the wood department.

Macon—Saw-mill and Woodworking Factory.—The B. H. Edwards Co. has been incorporated to establish a saw-mill and general woodworking factory, to deal in lumber, coal, etc., by B. H. Edwards, Lewis A. Wood and W. N. Fleetwood, Jr.; capital stock \$10,000.

Macon—Knitting Mill.—E. L. Martin and others will build a knitting mill.

Macon—Cotton Mill.—Eastern capitalists are reported as contemplating the purchase of the Ocmulgee Mills, with land, water-power, etc., intending to develop same, put in new cotton machinery, etc. Walter D. Lamar owns the mills.

Monroe—Handle Factory.—Geo. C. Selman, B. S. Walker, J. R. Radford and John M. Nowell have organized the Monroe Handle Co. and built a factory.

Newnan—Knitting Mill.—It is probable that E. S. Buchanan contemplates erecting a knitting mill.\*

Pelham—Cotton Mill.—The Pelham Manufacturing Co., reported last week as organized, has \$100,000 capital, and is building mill to have 3300 spindles and 100 looms, etc.; most of machinery has been contracted for; J. L. Hand is president; W. C. Twitty, vice-president, and B. U. Curry, secretary.\*

Pelham—Lumber Mills.—The Higgston Lumber Co. (mentioned last week) will build a new saw and planing mill and dry-kiln, having bought a large body of timber land to supply said plant; mill to have a daily capacity of 35,000 to 50,000 feet; logging railroad to be six miles long; order for all machinery placed; D. M. Rogers, manager.

Quitman—Cotton Mill.—The Atlantic & Gulf Cotton Mill Co. contemplates building another mill. Its first mill will be completed next month and start operations.

Rome—Evaporating Plant.—O. P. Meares, Jr., contemplates erecting a plant for evaporating peaches.\*

Rossville—Cement Works.—The report of a cement works at Rossville, mentioned last week, has its foundation in the fact that parties from the Northwest have bought forty acres of land near Rossville, and will establish a factory of some kind to employ skilled workmen, but further than this nothing can be said at present.

Roswell—Trousers Factory.—The Ox-Bow Pants Co. has been chartered, capital stock \$4000, to manufacture trousers, by J. H. Waller, J. D. Sherman and W. E. Sherman.

Trenton—Telephone System.—The North Alabama & Georgia Telephone & Telegraph Co. has been incorporated for construction of telephone system by D. P. Meyers, Trenton; J. L. White, Rising Fawn, Ga.; Thomas Cummings, New England City, Ga.; R. H. Tatum and J. P. Jacoway of Trenton, Ga.

Wilkes County—Gold Mine.—The Magruder gold mine in Wilkes county, owned by W. N. Mercler and J. P. Verdery of Augusta, Ga., has been sold to Milwaukee (Wis.) capitalists, who will expend \$50,000 in developing at once.

## KENTUCKY.

Louisville—Iron Works.—The Louisville Iron & Bolt Co. has let contracts to Lortz & Frey for the erection of its three additional buildings lately reported. The cost will be about \$20,000; buildings one story in height and occupy about 200x200 feet.

Louisville—Tobacco Factory.—Permit granted for erection of the proposed \$100,000 brick tobacco factory, which the American Tobacco Co. will build at once.

Louisville—Tobacco Factory.—The Harry Weissinger Tobacco Co. has ordered plans, etc., for its proposed addition to factory; will be four stories high, 50x153 feet, to increase output to 50,000 pounds daily.

Owensboro—Cotton Mill.—Jas. H. Parrish confirms the report that he is interested in the organization of a \$300,000 cotton-mill company.

Oaks—Saw-mill.—Henry Steyers will build a saw-mill.

Owensboro—Cotton Mill.—James H. Parrish and others are canvassing for stock to establish a \$200,000 cotton mill.

Richmond—Coal Mines.—A local company has commenced the development of coal deposits in Rockcastle county. J. C. Chenault is interested.

Ridgewood—Stave Mill.—Fell & Styles will build a stave factory to employ 300 men.

## LOUISIANA.

Abbeville—Electric-light Plant.—James Maxwell and Wagner Porter propose the formation of a company to build an electric-light plant.

Alexandria—Cottonseed-oil Mill.—The Cotton Oil Refining Co. of Jefferson, Texas, will build in Alexandria an oil mill of 100 tons capacity daily.

Arcadia—Lumber Mill.—Davis Bros. will build a lumber mill.

Jennings—Electric-light Plant.—F. S. Stearnes (reported to represent the Westinghouse Company) has received franchise for erection of electric-light and power plant.

Jennings—Rice Cultivation, Canals, etc.—The Wilkinson Canal Co. has purchased additional lands for rice cultivation; also has arranged for the extension of irrigating canal a distance of three miles; improvements will cost about \$50,000.



## MARYLAND.

Baltimore—Sash and Door Factory.—The Baltimore Sash and Door Factory has been incorporated, with a capital stock of \$75,000, by Henry J. Glick, W. H. Walts, James T. Johnson, Daniel E. Kean and Thomas L. Coulehan, all of Cumberland, Md.

Baltimore—Electric Plant.—The Heiser Manufacturing Co. (reported last week as incorporated) states that it intends installing a 200-light dynamo, with wiring, etc. Address William E. Heiser of the company.\*

Baltimore—Publishing.—Incorporated: The Advocate Publishing Co., by James J. Lamkin, Henry K. Hall, Harry H. Cook, Martin J. Reilly and Alva A. Lamkin; capital stock \$5000.

Baltimore—Brewery.—Western and local capitalists will build the Requardt Brewery, to have a capacity of 50,000 barrels; building to be of brick and stone, four stories high. W. S. Woolf of Philadelphia, Pa., is the architect for the plant.

Baltimore—Brewery.—The Monumental Brewing Co., recently incorporated, has made contracts providing for the completion of its brewery (which was commenced as the Monarch Brewery); can be addressed care of Cahn, Hohlitzell & Co.

Baltimore—Shovel Factory.—The Baltimore Shovel & Manufacturing Co. has been incorporated by Frank Guldener, John R. Korb, Louis W. New, Theodore A. Masterman and George L. Mowen, with a capital stock of \$50,000, to manufacture shovels, hardware and novelties.

Bradshaw (P. O. at Schell, W. Va.)—Saw-mills.—William Whitmer & Sons, Inc., of Philadelphia, Pa., are building at Bradshaw two oak mills, combined output 65,000 feet daily; cost complete, with railways, etc., about \$15,000; E. E. Clark, general manager.\*

Monrovia—Dental Supplies Factory.—The Russell Electric Mallet Co. (reported recently under Frederick as incorporated) has an established plant, and now incorporates to improve and enlarge its facilities; manufactures electric mallet for dentists' use and other specialties; Percy Russell, manager.

Street—Telephone System.—The Highland Telephone Co., capital stock \$20,000, has been incorporated by Parker F. Scarborough, Hugh T. Heaps, Albert G. Parker, Fred M. Ramsay, J. M. McNabb and others, for purpose indicated in title.

Washington, D. C.—Mining and Milling.—The United States & Dominion Mining Co. has been incorporated to conduct general mining and milling business, with capital stock of \$5,000,000; incorporators, J. R. Bach of Ann Harbor, Mich.; A. G. St. John of Grand Rapids, Mich.; H. L. St. John of Toledo, Ohio; E. P. O'Leary of Galveston, Texas.

## MISSISSIPPI.

Meridian—Hardware Company.—Incorporated: The Meyer-Neville Hardware Co., capital stock \$100,000, by George W. Meyer, S. A. Neville and others.

Meridian—Hardware Company.—George W. Meyer, S. A. Neville, H. S. Gunn and others have incorporated the Meyer-Neville Hardware Co., with authorized capital of \$100,000.

## MISSOURI.

Aurora—Lead and Zinc Mines.—W. S. McClary of Republic, Mo., and associates of West Virginia have purchased for \$6000 lead and zinc lands, which they will develop; concentrating mill will be built at once.

Joplin—Lead and Zinc Mines.—The North Heights Mining & Milling Co. has been incorporated, with capital stock of \$100,000, to develop lead and zinc lands, for which a large mill has just been completed; incorporators, N. F. Niederlander, W. A. Thomas and S. B. Thomas of St. Louis, D. H. Baldrige and E. A. Baldrige of Joplin, J. A. Edison and Russell Harding. Address D. H. Baldrige, manager.

Joplin—Lead and Zinc Mines.—The Lyon & Ledy Company has sold for \$20,000 lead and zinc mine lease to Messrs. Thayer & Wilkins of Boston, Mass., who will push developments.

Joplin—Lead and Zinc Mines.—The New Century Zinc & Lead Mining Co., capital stock \$60,000, has been incorporated by W. K. Boyce, J. U. Bruner, J. L. Trabue and others.

Joplin—Mining.—The Lackawanna Mining Co., capital stock \$150,000, has been incorporated by O. H. Picher, E. O. Bartlett, W. H. Picher and others.

Joplin—Mining.—Incorporated: The Valley Queen Mining Co., capital \$100,000, by G. H. Bennett of Geneva, Ill.; J. P. Hardy, J. C. Blish and L. P. Cunningham.

Joplin—Mining, etc.—Incorporated: The Excel Mining & Smelting Co., capital \$10,000,

by E. A. Carroll, C. E. Burch, Samuel Clough and others.

Kansas City—Lumber Company.—The Barr-Dubach Lumber Co., capital \$40,000, has been incorporated by F. B. Dubach, Jeannette D. Fette, both of Hannibal, and R. A. Barr of Kansas City.

Kansas City—Watch Factory.—Seth N. Thomas of Cheshire, Conn., proposes the organization of a \$150,000 stock company to remove his watch factory to Kansas City for operation; local parties to take \$100,000 of the stock.

Kansas City—Electric-Light Plants, etc.—The Kansas City Electric Co. and its allied interests, operating electric-light and power plants, proposes to expend about \$500,000 on the improvement and extension of its plants to furnish electricity for lighting purposes, and more especially to introduce it widely as motive power in factories and for other purposes. Conway F. Holmes, president, can be addressed.

Perryville—Produce Company.—Chartered: The Brown-Faherty Produce Co., with capital stock of \$6000, by Thomas E. Brown, L. P. Faherty and N. Tucker.

St. Louis—Manufacturing.—Incorporated: The International Pure Food Co., for manufacturing grocers' and druggists' supplies, by M. W. Joyce, T. E. Ferguson and G. S. Tourville.

St. Louis—Manufacturing.—Incorporated: The E. & W. Manufacturing Co., capital stock \$4200, by D. R. Calhoun, B. S. Warden, Peter Geiger and Adolph Geiger.

St. Louis—Prospecting.—Incorporated: The St. Louis Prospecting Co., capital stock \$20,000, by H. J. Cantwell, R. M. Scruggs, A. N. Saeger and W. Frank Carter.

St. Louis—Mining.—Incorporated: The Butler Mining Co., capital stock \$50,000, by Edward Butler, Ellen Butler, James J. Butler and others.

St. Louis—Cigar Factory.—Incorporated: The Rawak-This Cigar Manufacturing Co., for manufacturing cigars and tobacco, by J. Rawak, Laura Rawak, H. Theis, Mary Theis, L. Fortman, all of St. Louis; capital stock \$2500.

## NORTH CAROLINA.

Chapel Hill—Knitting Mill.—Probably W. E. Lindsay contemplates erecting a knitting mill.\*

Charlotte—Grain Company.—The Adams Grain & Provision Co. has been incorporated, with capital stock of \$10,000, to succeed Barnhardt & Co.; J. J. Adams, manager.

Charlotte—Mercantile.—Incorporated: The Miller Dry Goods Co., capital stock \$10,000, by E. C. Miller, S. J. Lowe, W. C. White and W. K. Neal.

Gastonia—Cotton Mill.—George A. Gray and John F. Love have completed arrangements that ensure the erection of their proposed million-dollar cotton mill, mentioned last September as projected. Company will organize as the Lory Mills, with capital stock of \$1,000,000, and erect building (for which contract has been let) to house 50,000 spindles and 1600 looms, 2000-horse-power engine and other necessary machinery.

Gilkey—Lumber Mills.—The Warlick Lumber Co. (reported recently under Hickory as incorporated) will manufacture all kinds of finished pine lumber at Gilkey; plant will have daily capacity of 5000 to 8000 feet, and cost about \$5000.

Greenville—Cotton Factory.—Efforts are being made to organize a company to establish a cotton mill; \$20,000 has been subscribed. Address A. A. Andrews.

Henderson—Mercantile.—Incorporated: The Farham Bros. Supply Co. by John D. Cooper, S. S. Farham, J. H. Farham, W. Brooks Farham and A. C. Zollcoffer; capital stock \$14,000.

Hickory—Lumber Company.—The Warlick Lumber Co. has been incorporated by A. A. Shuford, D. A. Whisenhunt, D. H. Warlick and others, with capital stock of \$5000, with privilege of increasing to \$25,000.

High Point—Furniture Factory.—A. R. Hammer will establish a factory for children's chairs, rockers, cribs and similar novelties.\*

High Point—Lumber Company.—Incorporated: The Snow Lumber Co., capital \$100,000, by A. Snow, E. A. Bencini, R. F. Dalton and J. E. Kirkman, to manufacture lumber, etc.

Laurinburg—Cotton Mill.—The Scotland Cotton Mill will erect another 5000-spindle plant; machinery has been ordered; A. Z. James, president.

Laurinburg—Harness Factory.—The J. R. Britt Company is being organized, with capital stock of \$30,000, to enlarge and extend the factory business of J. R. Britt.

Mooreville—Cotton Mill.—The Mooreville Cotton Mills will erect another 5000-spindle mill; J. E. Sherrill, president.

Oxford—Buggy Company.—Incorporated: The Taylor-Cannady Buggy Co., capital stock \$20,000, by Mary C. Cannady, N. H. Cannady, B. F. Taylor, C. W. Bryan, J. M. Currin and others.

Oxford—Mercantile.—Incorporated: The J. F. White Co., by J. F. White, J. S. Brown and J. L. Fuller, to continue the grocery and commission business of J. F. White, who is the president.

Raleigh—Publishing Company.—The North Carolina Publishing Co. (Raleigh Post) proposes to increase its capital stock from \$20,000 to \$50,000.

Roxboro—Trousers Factory.—The Noel Bros. Pants Co. has put in forty-four additional machines, making sixty-four in all.

Rutherfordton—Cotton Mill.—The Levi Cotton Mills will erect an addition and put in new machinery; machinery ordered; J. H. Smith, superintendent.

Smithfield—Cotton Mill.—The Smithfield Cotton Mill has been organized to build a mill, with Allen K. Smith, president, and S. S. Holt, secretary-treasurer.\*

Statesville—Hardware Company.—The Flannigan-Evans Hardware Co., capital stock \$35,000, has been incorporated, with A. J. Evans, president.

Statesville—Furniture Factory.—J. G. Shelton and W. A. Thomas, who have been organizing a company to build furniture factory, have succeeded in securing the required capital for their enterprise, and will apply for charter soon.

Wake Forest—Cannery.—The Wake Forest Canning Co. has been incorporated by O. K. Holding, T. E. Holding, J. C. Caddell, W. B. Dunn, Jr., A. J. Davis, N. Y. Guiley, J. W. Lassiter, W. D. Scarboro of Wake Forest, R. C. Mitchell, of Hartsville, J. N. Holding of Raleigh and J. L. Allen of Forestville; capital \$2000. Address O. K. Holding.

Winston—Knitting Mill.—The Twin City Knitting Mills, reported last week as incorporated, has an established plant making 200 dozen pieces of underwear daily; will put in dyehouse, bleachery, etc.\*

## SOUTH CAROLINA.

Aiken—Ice Factory, Oil Mill, Flour Mill, Gins, etc.—C. K. Henderson is organizing the Aiken Industrial Co. to erect a ginery with battery of three 80-saw cotton gins; a flour mill, daily capacity from fifty to sixty barrels; corn mill, capacity 150 bushels meal; oil mill, thirty tons of seed per day, and a 10-ton ice factory.

Camden—Cotton Mill.—The De Kalb Cotton Mills, reported last week, will have, besides the 10,000 spindles mentioned, 300 looms and other necessary machinery. For further particulars address E. Miller Boykin.

Charleston—Mercantile.—Incorporated: The Goldsmith Mercantile Co., by A. A. and M. Goldsmith, with capital stock of \$10,000.

Charleston—Incorporated: The Charleston Transfer Co., capital \$50,000, by P. Kent, J. D. Pletscher and J. Mitchell.

Cheraw—Manufacturing.—The Palmer-Nichols Co. has been incorporated for manufacturing purposes by Ernest A. Palmer and Geo. T. Nichols; capital stock \$25,000.

Conway—Mercantile.—Incorporated: The Spivey Mercantile Co., capital \$5000; John C. Spivey, general manager.

Georgetown—Drug Company.—The Iseman Drug Co. has been chartered, with \$10,000 capital stock and M. S. Iseman, president; W. F. Sparkman, vice-president; Markes Moses, secretary.

Greenville—Candy Factory.—George Condure & Co. of Augusta, Ga., will establish a candy factory in Greenville.

Indian Hook Shoals—Water-power Development.—The Catawba Power Co., reported recently as incorporated, will develop Indian Hook shoals, and is to commence construction of a dam soon. About 4000 horsepower will be available for transmission electrically to Rock Hill and Fort Mill for use in cotton mills, etc. Wm. C. Whitner, Anderson, S. C., can be addressed.

Leesville—Cotton Mill.—C. D. Barr, A. R. West, Matthews & Bouknight, E. J. Etheridge and others are endeavoring to form a \$150,000 cotton-factory company.

Manning—Telephone Company.—Incorporated: The Manning Telephone Co., capital stock \$2000, by F. C. Thomas, D. M. Bradham, W. E. Jenkinson and R. L. Felder.

Marshbluff—Grist Mill and Gin.—J. Eli Gregg & Son expect to build a ginery and grist mill.

McCormick—Lead Mines.—It is rumored that a Michigan syndicate has gained pos-

session of the old Dorn mine at McCormick, and will expend a large sum of money developing it.

Spartanburg—Cotton Mill.—Incorporated: The Saxon Mills, capital stock \$200,000, by John A. Law, John B. Cleveland, W. S. Manning, W. A. Law, H. E. Ravenel, Jos. Walker and F. L. Liles. This company is the one intending to build the 10,000-spindle plant projected by John A. Law, as recently reported.

Spartanburg—Gas and Electric Plant.—Incorporated: The Spartanburg Gas & Electric Co., with a capital stock of \$150,000. The directors are F. D. McEown, P. H. Gadsden, F. H. Knox. President and treasurer is McEown, and secretary, Gadsden.

Summerville—Fernoline Works.—The Summerville Fernoline Works is rebuilding its plant that was lately damaged by fire.

Walhalla—Cotton Mill.—The reorganized Walhalla Cotton Mills (reported recently) has let contract for a 93x100-foot addition, thus giving it floor space for 15,000 spindles and 500 looms; has now 3328 spindles, to which 6672 will be added, making 10,000.

Westminster—Bobbin Company.—The Southern Bobbin & Spinning Co. proposes to increase its capital stock from \$5000 to \$35,000.

## TENNESSEE.

Bristol—Saw-mill.—The Crowell Construction Co. will build a saw and planing mill.\*

Brownsville—Ice Factory.—Burt Smith & Co. have contracted for ice factory and refrigerating plant for their creamery.

Brownsville—Mercantile.—Incorporated: The Brownsville Dry Goods Co., capital stock \$10,000, by C. R. Sherman, B. A. Powell, A. J. Parker, E. S. Horton and C. S. Walker.

Chattanooga—Veneering Factory.—J. D. Goff of Sparta, Tenn., will build a \$50,000 veneering factory in Chattanooga.

Franklin—Phosphate Mines and Plant.—I. C. Wall and associates of Pennsylvania, New York and Tennessee have secured 1500 acres of phosphate lands near Franklin, which they will develop and erect a modern plant; company has applied for charter, capital stock being \$125,000. Address I. C. Wall, Sr., care of Tulane Hotel, Nashville, Tenn.

Gallatin—Phosphate Lands.—Walter Bailey of Spring Hill, Tenn., has purchased for \$12,000 400 acres of phosphate lands near Gallatin.

Harriman—Mills.—Incorporated: The Emory River Milling Co., capital \$10,000, by S. P. Blair, A. T. Daniel, B. M. Ewing and J. E. Rodes.

Jackson—Cotton Mill.—The Bemis Bros. Bag Co. of St. Louis, Mo., and elsewhere has closed contract to erect in Jackson a 20,000-spindle cotton factory to cost about \$400,000. Lockwood, Greene & Co. of Boston are the architects for the plant. J. S. Bemis of St. Louis is treasurer of company.

Jackson—Engine and Boiler Works.—The Southern Engine and Boiler Works (lately mentioned as having increased capital stock) has doubled capacity, and contemplates adding pneumatic tools to boiler shop; E. Burkitt, secretary.\*

Knoxville—Woodenware Factory.—J. H. Aibley of Gardner, Mass., contemplates the erection of a woodenware factory in Knoxville.

Knoxville—Coke Ovens.—O. L. Svenson, G. A. Drutzer and A. F. Drutzer of Chicago, Ill., and E. A. Adams of Kankakee, Ill., are reported as about to purchase coal lands in the vicinity of Knoxville with the purpose of utilizing same in the manufacture of coke by the Keneval process.

Knoxville—Gold Mines.—The Empire Gold Mining Co. expects to commence the development soon of its mines on Coker creek; D. D. Nicholas, general manager.

Lebanon—Phosphate Mines.—Incorporated: The Wilson County Phosphate Co., for mining purposes, by J. H. Lester, W. D. McLaughlin, J. L. Weir, E. E. Weir, L. M. Anderson, W. Jenkins and L. Thompson; capital \$5000.

Memphis—Ferry.—Incorporated: The West Memphis Ferry Co., capital stock \$1000, by Charles H. Organ, W. B. Gates, John C. Wyckoff, Jas. O. Couch, William M. Randolph, C. W. Hunter and J. Mansber.

Union City.—Incorporated: The Coble & Clagett Co., capital \$21,000, by W. G. Clagett, J. A. Coble and others.

## TEXAS.

Cisco—Mercantile.—Incorporated: The Eppler Mercantile Co. of Cisco and Gorman, Eastland county, capital stock \$10,000; incorporators, H. G. and J. Q. Eppler.

Colmesneil—Saw-mill.—Ben S. Ferguson will build a saw-mill of 30,000 feet capacity daily; machinery ordered.



**Commerce—Flouring Mill.**—It is reported that E. H. R. Green of Dallas has been conferring with Commerce people in regard to building a large flouring mill and made satisfactory arrangements for work to begin at once.

**Eagle—Water Works.**—Incorporated: The Rio Grande Water & Power Co., capital stock \$40,000, to supply water to the public; incorporators, Leonardo de Bona, Pasquale de Bona, Rocco C. de Bona and Leonardo Charles de Bona.

**Fort Worth—Grain Mill.**—Incorporated: The Tarrant Grain & Mill Co., capital stock \$10,000, by C. T. Hodge, G. H. Ward, C. Barr and A. E. Ward.

**Goforth—Cotton Gin.**—The Rogers Ranch, Gin & Milling Co., capital stock \$6000, has been incorporated by A. Kizzlee, J. E. Sensee and H. I. Sensee.

**Houston—Ice Factory.**—The Houston Ice & Brewing Co. has let contract for the erection of an additional ice plant of 200 tons capacity daily.

**Houston—Creosoting Plant.**—The Southwestern Tie & Timber Co. (reported last week as incorporated with capital of \$50,000) has elected Sam A. McNeely of Jefferson, Texas, president; O. C. Drew of Houston, treasurer, and these two, with James Irvine of New York, are the directors. The company intends to build a plant for creosoting, burnitizing and otherwise treating ties, timber and other lumber. Address O. C. Drew, treasurer.

**Jasper—Saw-mill.**—A. Gilmer of Orange, Texas, will build a large saw-mill near Jasper.

**Kirbyville—Saw-mill.**—D. J. Lee of Kirbyville and Westbrook Bros. of Beach Grove will build a large saw-mill.

**Kirbyville—Saw-mill.**—Dr. George Collier of Beaumont will build saw-mill at Kirbyville.

**Mt. Pleasant—Cotton Company.**—Incorporated: The Lillienstern-Badt Cotton Co., capital stock \$20,000, by Morris Lillienstern, J. M. Badt and E. S. Lillienstern.

**Paris—Mercantile.**—Incorporated: The Blair Dry Goods Co., capital stock \$18,000, with M. P. Blair, manager.

**Paris—Cotton Mill.**—Local parties contemplate erecting a cotton factory and are now making investigations in the industry; letters care of W. F. Oill, secretary Commercial Club, will be delivered.

**Paris—Ice Factory.**—Charles Noyes, J. W. Dupree and others have organized a company, with capital of \$20,000, to build an ice factory.

**Port Arthur—Rice-growing.**—Incorporated: The Citizens' Rice-Growing Association, capital stock \$15,000, to grow and sell rice, by W. A. Tomlinson, H. H. Beels, Frank Cummins and Geo. M. Craig.

**Rusk—Bottling Works.**—Thomas Humason will establish bottling works.

**Rusk—Iron Foundry.**—Kavanaugh & Son have leased the Frank Kavanaugh Iron Foundry and will operate it; \$5000 has been added to the capital.

**San Angelo—Cattle Company.**—Incorporated: The Cattle Co. of San Angelo, capital stock \$20,000, by J. W. Montague, Joe Montague and T. W. Crouch.

**San Antonio—Sanitarium.**—Incorporated: The Texas Hot Sulphur Water Sanitarium Co., capital stock \$40,000, by I. T. Pryor, R. H. Russell, J. D. Anderson, R. L. C. Russell and Floyd McGowan.

**San Marcos—Cotton Mill.**—G. G. Johnson, E. J. L. Green and W. D. Wood are endeavoring to form a \$75,000 cotton-factory company.

**Taylor—Brick Works.**—The Taylor Brick Co. is rapidly completing its works.

**Wills Point—Water Works.**—The city has voted an issuance of \$15,000 bonds for construction of water works. Address "The Mayor."

**Wilson—Mill and Gin.**—Wilson Co-operative Milling & Ginning Co., capital stock \$10,000, has been incorporated by G. W. Jones, J. B. White, C. C. Lowbless and others.

#### VIRGINIA.

**Alexandria—Ice Factory.**—The Mutual Ice Co. contemplates increasing its factory's capacity this summer.

**Buchanan—Broom and Mattress Factory.**—B. W. Dawson will establish a broom and mattress factory.\*

**Charlottesville—Woolen Mill.**—The Charlottesville Woolen Mills is installing a 100-horse-power dynamo to supplement its water-power.

**Disputanta—Peanut Factory.**—E. A. Rainey has purchased and will put in operation the Alliance Peanut Factory; will put in new machinery.

**Harrisonburg—Sewer Extension.**—The city is about to contract for small pipe sewer. Bids will be opened next month. Specifications will be furnished by A. H. Snyder, recorder. Address T. O. Jones, chairman of committee.\*

**Lowmoor—Electric Plant.**—The Rich Patch Iron Ore Co. has let contract for erection of large electric-light and power plant for its mines.

**Luray—Water Works.**—The city will petition the legislature for permission to issue \$35,000 bonds for construction of water works. Address "The Mayor."

**Newport News—Abattoir.**—The Newport News Abattoir Co. has awarded contract to James F. Bradley of Richmond, Va., for the erection of buildings for its slaughter-house and ice factory; slaughter-house will be two and one-half stories high, of brick, 230x180 feet.

**Petersburg—Street Paving.**—It is proposed to pave 7544 yards with asphalt, to cost \$15,088; T. R. Dunn, city engineer.

**Richmond—Packing-house.**—Kingan & Co., Ltd., have about made all repairs necessary to their packing-house that was damaged by fire last week, and resumed operations.

#### WEST VIRGINIA.

**Bluefield—Electric-light Plant.**—The East River Electric Co. has let contract for complete installation of new machinery for its lighting plant.

**Charleston—Light, Heat and Power Company.**—The Kitson Light Foreign Development Co. has been incorporated to manufacture and deal in franchises for the production of light, heat and power, with capital stock of \$1,000,000, by J. E. Scaggs, J. E. Chilton, H. Fry and others.

**New Martinsville—Cemetery Company.**—Incorporated: The New Martinsville Cemetery Association, with an authorized capital stock of \$25,000, by S. Bruce Hall, J. C. McEldowney and others.

**St. Albans—Construction Company.**—The Equitable Construction Co. has been organized by Messrs. Rockwell & Snyder, railroad contractors of Chicago, Ill.

**Welch—Lumber Company.**—Incorporated: Collins, Offut & Co. for dealing in logs and timber and to manufacture lumber; incorporators, Creed H. Collins of Pennsboro, W. Va.; W. G. Offut of Asheville, N. C.; M. N. Offut, B. B. Burns and C. L. Ritter of Welch, W. Va.

**Wheeling—Enameling Plant.**—Clement Ludwig has established an enameling plant on S. Jacob street.

#### BURNED.

**Forest Glen, Ga.—Saw-mill of H. S. Johnson of Americus, Ga.**

**Mapleville, N. C.—J. H. Uzzell's cotton gin, saw and grist mills.**

**Monroe, La.—John G. Sanders' foundry and machine shop damaged about \$2000.**

**Stroud, Ark.—Mathews & Son's lumber mill; loss \$9000.**

**Tullahoma, Tenn.—J. G. Aydelott's tobacco factory; loss \$2500.**

**Water Valley, Miss.—Noah Brower's cotton gin; loss \$2200.**

#### BUILDING NOTES.

**Arcadia, La.—Business Block.**—S. W. Smith and G. W. Lawhon will erect a brick business block.

**Atlanta, Ga.—Church.**—Permit granted to Venable Bros. & Trippe for erection of North Avenue Presbyterian Church, of Stone Mountain granite, seating capacity for 700 and cost \$26,000. Bruce & Morgan prepared the plans.

**Baltimore, Md.—Church.**—Sexton M. E. Church will erect a \$4000 edifice, after plans now in hand; Rev. Geo. W. Hobbs, pastor, Monroe and Ramsay streets.

**Baltimore, Md.—Office Building.**—Permit has been granted for the erection of the Continental Trust Co.'s proposed office building, to cost about \$700,000; will be fourteen stories high, 76x134 feet; plans, etc., by D. H. Burnham of Chicago; Charles McCaul of Philadelphia, Pa., contractor.

**Bristol, Tenn.—Office Building.**—It is stated that the Virginia Iron, Coal & Coke Co., W. Graham, superintendent, has purchased site for its proposed office building, and will build at once; also proposed, a depot.

**Clinton, N. C.—Warehouse.**—The Sampson Tobacco Warehouse Co. will build a warehouse.

**Greenville, S. C.—Sanitarium.**—Dr. T. T. Earle will build a sanitarium to cost \$10,000.

**Kansas City, Mo.—Commercial Building.**—Thomas H. Swopé will erect a commercial building to cost \$150,000; will have electric-power and lighting plant, steam-heating apparatus, seven stories, of underwriters' slow combustion construction, etc.

**Lynchburg, Va.—Storehouses.**—J. E. Parrish has contract to build two storehouses, fireproof, of brick, to cost \$2100.

**Macon, Miss.—Courthouse and School.**—Plans and specifications by the Andrew J. Bryan Company of Atlanta, Ga., have been accepted for the proposed \$15,000 school building at Macon and the proposed \$30,000 courthouse; contracts will be let within thirty days.

**Miami, Fla.—Business Building.**—Frank T. Budge will erect a business building; to be three stories high, have plate-glass fronts, electric elevators (passenger and freight), etc.

**Montvale, Tenn.—Hotel.**—J. S. Petty has contract for new hotel at Montvale Springs; building will be three stories, frame, 40x90 feet, and cost \$15,000.

**Nashville, Tenn.—Club Building.**—The University Club, Dr. W. L. Dudley, president, will erect a new brick and stone club building, four stories, 62x100 feet, to be heated by steam and lighted by electricity. Work upon the foundations will begin in two weeks, and bids for the various portions of the other work are being solicited.

**Pensacola, Fla.—Warehouse.**—The C. J. Heinberg estate will erect one-story brick warehouse 110x150 feet, rubber roofing, to cost \$9000.

**Pensacola, Fla.—Warehouse.**—Estate of C. J. Heinberg has let contract to Wills & Broughton for erection of 110x150-foot warehouse to cost \$8000.

**Rustburg, Va.—Office Building.**—Bids will be opened February 5 for building, equipping and rehabilitating county clerk's offices, as per plans and specifications on file with "County Clerk" and in architect's office, Room 56, Metzgerott Building, Washington, D. C. Address C. S. Goggin, county clerk, Rustburg.

**Selma, Ala.—Courthouse.**—J. W. Hood & Co. of Montgomery, Ala., have contract at \$37,900 for the erection of courthouse.

**Shreveport, La.—Hotel.**—Frank Serwich will build a four-story brick and stone hotel of 100 rooms; site purchased for \$5100.

**Sparta, Tenn.—Bank Building.**—The First National Bank has decided to improve its building with iron front, steel ceiling and tiling floor.

**Tampa, Fla.—Clubhouse.**—The Spanish Club will build a clubhouse.

**Van Buren, Ark.—Opera-house.**—C. J. Murta will rebuild his opera-house, recently burned.

**Vicksburg, Miss.—Residence.**—Curphey & Mundy closed contract with Samuel Brown for erection of two-story stone residence to contain all modern improvements. William Stanton prepared plans.

**Washington, D. C.—Dwellings.**—Mrs. Henry Wadsworth will build a costly dwelling; Hamilton & Colbert will erect seven-story office building, 33x100 feet, steel framework; Lester A. Barr will erect two dwellings, three stories, 18x34 feet, steam heat, etc., to cost \$6000; F. W. Brandenberg will build dwelling, three stories, 20x42 feet, hot-water heat, to cost \$7500.

#### RAILROAD CONSTRUCTION.

##### Railways.

**Andalusia, Ala.—**It is reported that the Louisville & Nashville Company has let a contract for the construction of its proposed extension from Andalusia to Geneva, a distance of forty-five miles. R. Montfort at Louisville is chief engineer of the company.

**Atlanta, Ga.—**L. E. O'Keefe, secretary and treasurer of the Atlanta & Alabama Railroad, writes the Manufacturers' Record that the company is endeavoring to make arrangements to resume work on its road in the near future.

**Atlanta, Ga.—**The Atlanta & Western Railway & Power Co., recently referred to in the Manufacturers' Record, announces that it proposes constructing an electric line from Atlanta to Austell and Douglasville, a distance of about forty-five miles. The company is capitalized at \$100,000. Among those interested are Frank S. Monnett of Columbus, Ohio; L. C. Lull of Kalamazoo, Mich., and W. J. Northen and T. B. Neal of Atlanta.

**Augusta, Ga.—**It is reported that the necessary terminals for the Chattanooga, Augusta & Charleston Air Line Railway have been secured in Augusta and Charleston, and that a quantity of the rails for the line have

also been purchased. James U. Jackson of Augusta is one of the principal promoters of the enterprise.

**Birmingham, Ala.—**The Kansas City, Memphis & Birmingham Railroad Co. is constructing a number of side-tracks between Memphis and Birmingham; also relaying a portion of its main line with 75-pound rails. J. H. Sullivan at Memphis, Tenn., is superintendent.

**Bristol, Tenn.—**It is reported that surveys are nearly completed for the proposed extension of the Virginia & Southwestern Railroad from Johnson City to Elizabethton, a distance of about ten miles, where connection will be made with the Ohio River & Charleston road. J. M. Fitzgerald of Bristol, Tenn., is assistant manager.

**Carthage, N. C.—**The Carthage Railroad may possibly be extended from its present terminus, Curriersville, N. C., to Greensboro, a distance of about forty miles. W. C. Petty at Carthage is president of the company. The road is now in operation between Cameron and Curriersville, a distance of twenty-one miles.

**Chattanooga, Tenn.—**It is announced that the Chattanooga Rapid Transit Co., of which S. W. Divine is president, has decided to build several extensions in addition to the line to Chickamauga Park, recently completed. Bonds have been floated for the purpose.

**Chattanooga, Tenn.—**A report is again current that the Chattanooga Southern Railroad is to be extended during the present year to Birmingham from its present terminus, Gadsden, Ala. It is now in operation between Chattanooga and Gadsden, a distance of ninety-two miles. Henry L. Lamb at Lansingburg, N. Y., is president, and M. F. Bonzano at Chattanooga, Tenn., general manager.

**Damascus, Va.—**A correspondent of the Manufacturers' Record writes that the Norfolk & Western Railway Co. has secured control of the Abingdon & Damascus Railroad, extending between the towns mentioned, and proposes to build it from Damascus into Shady Valley, Tenn., to reach tracts of timber in that locality. C. S. Churchill at Roanoke, Va., is engineer of the Norfolk & Western.

**Ducktown, Tenn.—**Messrs. McFarland & Shea of Knoxville, Tenn., have secured the contract to construct the extension of the Atlanta, Knoxville & Northern Railroad to mines of the Virginia Copper Co. in the vicinity of Ducktown. The road will be about five miles in length.

**Elkton, Md.—**The plan to build a railroad between Elkton and Chesapeake City has been revived by local parties.

**Eureka Springs, Ark.—**John Scullin, president of the Allegheny Improvement Co., writes the Manufacturers' Record that this company is receiving proposals to construct the proposed railroad between Eureka Springs and Harrison, Ark. It will be about fifty miles in length and is to be called the St. Louis & Northern Arkansas Railroad. Bids will be received until January 29. Mr. Scullin's address is St. Louis, Mo.

**Friendsville, Md.—**W. S. Taylor, president of the Bear Creek Lumber Co., writes the Manufacturers' Record that the road controlled by this company will be extended about five miles during the present year. It is proposed to double the present equipment of the line.

**Lexington, Ky.—**Messrs. Fell & Styles of Ridgewood, Ky., have built a railroad connecting with the Lexington & Eastern, which is seven miles long, through timber lands which they have purchased.

**Lonoke, Ark.—**J. N. Wooley, general manager of the White River, Lonoke & Western Railway Co., writes the Manufacturers' Record that the company may extend its line eighteen miles if it can make the necessary financial arrangements. It is proposed to build six miles of extension in any event. No contracts will be let, the company doing its own work.

**Louisville, Ky.—**A correspondent of the Manufacturers' Record writes that the Louisville & Fairfield Railway Co. is making the necessary financial arrangements to build its electric line between the points mentioned, a distance of thirty miles. Among those interested is Hon. W. B. Hoke of Louisville, who is president of the company.

**Marietta, Ga.—**The last report concerning the Marietta, Knoxville & Northern Railroad is to the effect that the company has finally decided to extend the line from Marietta to Atlanta as soon as possible. Joseph McWilliams at Marietta is general manager of the company.

**Marion, S. C.—**The Marlboro, Marion & Horry Railroad Co. has changed its plan



relative to constructing its line, and may build between Gibson Station, on the Seaboard Air Line, and Marion, by the way of Bennettsville, S. C. W. J. Matheson is president of the company.

Mobile, Ala.—The Mobile & Bay Shore Company, it is reported, is surveying a line from a connection with its road to Scranton, Miss., estimated at twenty miles. The Mobile & Bay Shore is a branch of the Mobile & Ohio, of which E. L. Russell at Mobile is president.

Narrows, Va.—It is reported that surveys have been made for the railroad line being promoted by the Younken Lumber Co. of Narrows to a point called Burke's Gardens. The road will be about fifty miles long if built. E. B. Younken is president of the company.

Norfolk, Va.—A bill has been introduced in the Virginia legislature authorizing the consolidation of the Port Norfolk Electric Railway, the Portsmouth & Smithfield Railway Co. and the Portsmouth & Pig Point Company. It is understood that if consolidated an electric road will be built from Pig Point to Portsmouth and Norfolk. Among those interested is James W. Shelton at Portsmouth, Va.

Parkersburg, W. Va.—Frank A. Durham and others are interested in the Ohio & Little Kanawha Railroad Co., which has been incorporated in West Virginia and Ohio to build a line between Burnsville, W. Va., on the Baltimore & Ohio, to Parkersburg and through a portion of Morgan county, Ohio. The offices of the company will be at Zanesville, Ohio.

Quitman, Texas.—The business men of Quitman are negotiating with the Southern Pacific Railway Co. to secure a branch line from Mineola to Quitman, a distance of ten miles.

Richmond, Texas.—The owners of the Texas Western Railroad are considering the question of building an extension to Richmond, a distance of nine miles. W. S. Hall, at Houston, Texas, is one of the present owners of the line.

San Antonio, Texas.—It is reported that John S. Elliot of Booneville, Mo., has secured the contract for the extension of the Missouri, Kansas & Texas system from San Marcos to San Antonio, a distance of fifty miles.

Selma, Ala.—The city authorities have given the Mobile & Ohio Railroad Co. permission to construct tracks within the city limits to connect with its proposed line from Selma to a point on the Montgomery division. E. L. Russell, at Mobile, is president of the company. The extension will be thirty miles in length.

Snickersville, Va.—Arrangements are being made to build the proposed extension of the Southern system to Snickersville, a distance of eight miles, and the necessary ties have been received for the roadbed. W. H. Wells, at Washington, is chief engineer.

St. Albans, W. Va.—C. C. Watts, president of the Pocahontas, Coal River & Kanawha Railway Co., writes the Manufacturers' Record that Messrs. Rockwell & Snyder have formed the Equitable Construction Co. at St. Albans and have taken a contract to build twenty miles of its line; 60-pound rails will be utilized. Work has been commenced on the roadbed.

St. George, W. Va.—It is reported that surveys are being made for a railroad line to be built in the interest of the Buffalo Lumber Co. through a portion of Tucker county along Red Creek valley.

Valdosta, Ga.—It is understood that the Valdosta Southern Railroad is to be extended in the near future to a connection with the Florida Central & Peninsular Railroad. J. M. Wilkinson of Valdosta is one of the principal promoters of the enterprise.

Velasco, Texas.—It is understood that the Velasco Belt Line Co. has determined to build another extension about three and one-half miles long. E. D. Dorchester is president of the company.

Waco, Texas.—Charles Hamilton, general manager of the Texas Central Railroad Co., advises the Manufacturers' Record that the extension of forty miles now under construction will be completed by February 1.

Waldron, Ark.—A correspondent of the Manufacturers' Record writes that work has begun upon the Arkansas Southern between Waldron and Heavener, I. T., where it will connect with the Kansas City, Pittsburg & Gulf road. C. C. Godman of Fort Smith, Ark., is one of the principal promoters.

Washington, D. C.—The Washington, Mechanicsville, Leonardstown & Point Lookout Railroad Co. has been incorporated to build an electric line between Point Lookout and Washington. Among those interested are Frank E. Terry and Comley R. Jones of

Philadelphia. The company is capitalized at \$1,000,000.

Washington, D. C.—A bill has been introduced into Congress allowing the Baltimore & Ohio Railroad Co. to construct a viaduct, system and other terminals within the city limits. J. M. Graham at Baltimore is chief engineer.

Waycross, Ga.—A contract for about nine miles of extension of the Waycross Air Line has been let to Beck & Co. of Fitzgerald, Ga. J. E. Wadley at Waycross is president of the company.

Wellborn, Fla.—H. C. McCrary and E. B. Whidden of Gainesville, Fla., are contractors for a railroad to be built in Columbia county between White Springs and Wellborn, a distance of nine miles.

#### Street Railways.

Nashville, Tenn.—J. S. Brown and others are reported as interested in a proposed electric line in the northeastern part of the city.

#### Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Belting.—See "Textile-mill Equipment."

Belting.—See "Electric-light Plant, etc."

Bleachery.—See "Textile-mill Equipment."

Boiler and Engine.—See "Saw-mill."

Boiler and Engine.—The Moore County Brick Co., Southern Pines, N. C., wants about a 50-horse-power boiler and about 40-horse-power engine.

Boiler and Engine.—Broyles, McClellan & Lackey, 208 Commerce street, Knoxville, Tenn., are in the market for hoisting engine and boiler mounted on wheels, complete, to have capacity for lifting 10,000 pounds, single rope, usual speed.

Boiler and Engine.—W. H. Gibbs & Co., Columbia, S. C., want (dealers) prices on 20 to 50-horse-power second-hand engine and boiler; desire full description of machinery, name of maker, etc.

Boiler and Engine.—W. H. Gibbs & Co., Gervais street, Columbia, S. C., are in the market (dealers' prices) for 50-horse-power return tubular boiler, half-front, second-hand, in good order, complete with all fixtures, including injector, delivered at Latta, S. C.; also want best prices on second-hand 40-horse-power plain slide-valve engine, center or side crank, with all fixtures, etc., delivered at Cope, S. C.

Boiler and Engine.—Box 178, Elkin, N. C., wants 35, 40 or 50-horse-power left-hand side-crank horizontal stationary engine, medium slow speed, and horizontal return tubular boiler with full front, both to be good as new and at low price.

Boilers and Engines.—See "Paper Mill."

Boilers and Engines.—See "Phosphate Plant."

Brick Machinery.—W. H. Gibbs & Co., Gervais street, Columbia, S. C., are in the market for brick machine (dealers' prices), second-hand, 12,000 to 15,000 capacity daily, guaranteed in good order.

Bridges.—See "Railway Equipment, etc."

Broom Machinery.—B. W. Dawson, Buchanan, Va., wants prices on broom machinery.

Broom Machinery.—A. Beaty Sherard, Columbia, S. C., wants to correspond with manufacturers of broom machinery.

Conveying Machinery.—See "Phosphate Plant."

Cotton Mill.—Company at Smithfield, N. C., will want cotton-mill equipment next autumn. Address Allen K. Smith, president.

Dyeing Machinery.—See "Textile-mill Equipment."

Electrical Supplies.—Alabama Supply Co., Birmingham, Ala., wants addresses of manufacturers of electrical supplies.

Electric-light Plant.—The Helser Manufacturing Co., William E. Helser, 11 W. Pratt street, Baltimore, Md., wants to put in a 200-light dynamo, with wiring.

Electric-light Plant, etc.—Pelham Manufacturing Co., Pelham, Ga., has yet to contract (for cotton mill) for hangers, shafting, pulleys, belting, heating and ventilating apparatus, electric-light equipment, fire protection and roofing.

Engine.—See "Saw-mill."

Engine.—See "Traction Engine."

Evaporating Plants.—See "Packing Plant."

Fire-protection Equipment.—See "Electric-light Plant, etc."

Flour-milling Machinery.—Lidgerwood Manufacturing Co., by Chas. D. Butler, 96 Liberty street, New York city, wants estimates on a small bolting machine to grade flour into five qualities, to be capable of treating 800 to 1000 weights per day; this for export.

Foundry.—Blumenfeld Co., 120 W. Bryan street, Savannah, Ga., wants to buy or to lease foundry plant for small cast irons.

Furniture.—Southern Supply Co., Coeburn, Va., wants addresses of wholesale dealers in furniture.

Furniture Machinery.—A. R. Hammer, High Point, N. C., will want machinery for manufacture of children's chairs, rockers, cribs, etc.

Heating and Ventilating Apparatus.—See "Electric-light Plant, etc."

Hoisting Engine.—See "Boiler and Engine."

Hoisting Equipment.—See "Boiler and Engine."

Iron.—C. Blair, Box 895, Birmingham, Ala., is in the market for heavy machinery cast scrap iron; advise best price and delivery; terms cash against bill of lading.

Knitting Machinery.—E. S. Buchanan, Newnan, Ga., wants prices on knitting-mill machinery.

Knitting Machinery.—Mrs. A. Heath, Golden City, Mo., wants information, catalogues, prices, etc., of knitting machinery.

Knitting Machines.—W. E. Lindsay, Chapel Hill, N. C., wants addresses of manufacturers of knitting machines.

Machine Tools.—Akron Electrical Manufacturing Co., Akron, Ohio, is in market for second-hand boring machine, with 60-inch swing and reversible table.

Machine Tools.—Southern Engine and Boiler Works, E. Burkitt, secretary, Jackson, Tenn., contemplates installing pneumatic tools to boiler shop, and will also want a bevel shear and radial drill.

Mattress Factory.—B. W. Dawson, Buchanan, Va., wants prices on mattress machinery.

Mining Equipment.—See "Phosphate Plant."

Nickle-plating Equipment.—W. C. Carman, Dover, Del., wants addresses of manufacturers of nickle-plating equipment; also of silver-plating equipment.

Packing Plant.—O. P. Meares, Jr., Rome, Ga., wants to correspond with manufacturers of evaporating plants.

Paper Mill.—J. M. Almand, Lock Box 25, Conyers, Ga., wants one second-hand 40-horse-power semi-portable engine, one 100-horse-power Corliss engine, one 150-horse-power steam boiler, two 75-horse-power steam boilers, one 60-inch paper machine; six 48-inch dryers, six 60-inch dryers.

Pneumatic Tools.—See "Machine Tools."

Phosphate Plant.—Central Phosphate Co., Ocala, Fla., wants 50 to 60-horse-power boiler, 30 to 90-horse-power boiler, 10 to 12-inch pumps, washers, crushers, elevators, conveyors, pulleys, shafting, belts, piping, rails, dumping cars, etc.

Quarrying Machinery.—See "Stoneworking Machinery."

Railway Construction.—Allegheny Improvement Co., John Scullin, president, St. Louis, Mo., will receive bids until January 29 for the construction of fifty miles of steam railroad.

Railway Equipment.—See "Phosphate Plant."

Railway Equipment.—Union Phosphate Co., Morriston, Fla., wants eight or ten tons relaying 20-pound rails; state condition and quote prices delivered.

Railway Equipment.—Atlantic & North Carolina Railroad Co. has been authorized to expend \$50,000 for new cars and engines. Address President Bryan, New Berne, N. C.

Railway Equipment.—C. D. Hage, director-general of Copenhagen Freeport Co., Copenhagen, Denmark, is in the market for railroad cars for the transportation of grain; original designs of various types of cars for this purpose are desired, same to be accompanied by price-list.

Railway Equipment, etc.—Galveston & Brazos Valley Railroad Co., W. A. Squires,

president, Henrietta, Texas, will want soon thirty miles of 56-pound rails, with spikes, fastenings, etc.; also will want later 60-foot-span steel bridge and possibly bids for construction of rail and wagon bridge.

Railway Equipment.—C. Blair, Box 895, Birmingham, Ala., is in the market for iron and steel second-hand relaying rails; advise best price and delivery; terms cash against bill of lading.

Railway Equipment.—Dahlonga Consol. Gold Mining Co., Dahlonga, Ga., wants a quantity of first-class relaying rails, fourteen and twenty-five pounds.

Railway Equipment.—Birmingham Railway & Electric Co., J. B. McClary, manager, Birmingham, Ala., is in the market for ten large motor cars and ten 30-foot trailers.

Rice Mill.—"J. V. P.," care of Manufacturers' Record, Baltimore, Md., wants information, prices and full particulars relative to rice mills.

Roofing.—See "Electric-light Plant, etc."

Saw-mill.—Mears & Co., Mearsville, Va., want to buy saw-mill complete, etc.

Saw-mill.—J. W. Miner, Ronda, N. C., wants prices on a second-hand circular saw-mill, with engine.

Saw-mill.—W. V. Tennent & Co., Terra Alta, W. Va., will soon be in want of portable boiler and engine of about twelve horsepower, light saw-mill, swing cut-off saw and lath mill; state prices and time of delivery on both new and second-hand equipment.

Saw-mill.—Benwa S. Shattler, P. O. Box 86, Crossville, Tenn., wants to arrange for saw-mill of 10,000 to 15,000 feet capacity daily.

Saw-mill.—E. W. Wickey, Ocean Springs, Miss., wants machinery for sawing and splitting wood.

Saw-mill Machinery.—Christopher Sign Co., Cordele, Ga., wants to buy small pony planer, second-hand; also 14 or 16-inch second-hand saw mandrel.

Saw-mill Machinery.—Wm. Whitmer & Sons, Inc., Schell, W. Va., will want a rip saw for cutting dimensional stock. Address E. E. Clark, general manager.

Scrap Iron.—See "Iron."

Sewer Construction.—Bids will be opened February 12 for the construction of small pipe sewer containing about 2300 feet of 15-inch pipe and 2260 feet of 12-inch and 600 feet of eight-inch for the city of Harrisonburg, Va. Specifications will be furnished on application to A. H. Snyder, recorder; T. O. Jones, chairman of committee.

Silver-plating Equipment.—See "Nickle-plating Equipment."

Steam Shovel.—Geo. E. Hopper, Arkansas City, Kans., wants second-hand steam shovel to dig gravel, 20-foot face, half under water, capacity about sixty yards.

Stoneworking Machinery.—Salisbury Granite & Construction Co., N. B. McCaulass, manager, Salisbury, N. C., is in the market for gang saws, lathes, polishers, pneumatic tools, traveling crane, etc.—complete equipment for stoneworking.

Tank.—I. Y. Palmer, Columbia, Ala., wants to correspond with makers of water tanks.

Textile-mill Equipment.—Twin City Knitting Mills, Winston-Salem, N. C., is in the market for bleach and dye house, shafting, split-wood pulleys, belting, etc.

Theater Furniture, etc.—Columbia, S. C., will want prices on 1500 opera chairs, five sets of scenery for 38x77 stage, seventy feet high, proscenium arch thirty-four feet high and thirty-eight feet wide, desks for council chamber, etc. Address either T. H. Gibbs, Columbia, S. C., or architect of the building, Frank P. Milburn, Charlotte, N. C.

Tobacco Machinery.—W. J. Whitlow & Bro., Dillwyn, Va., want to purchase machinery for cigar factory.

Traction Engine.—J. W. Miner, Ronda, N. C., wants to buy second-hand traction engine, twelve to eighteen horse-power.

Water Works.—See "Tank."

Water Works.—Sheffield, Ala., contemplates constructing water works, and wants correspondence from competent engineers. Address Al Goldman, secretary committee.

Wireworking Machinery.—J. M. Hayden & Co., Grand Rapids, Mich., wants to correspond with makers of wire-drawing machinery.

Woodworking Machinery.—See "Saw-mill."

Woodworking Machinery.—See "Saw-mill."

Woodworking Machinery.—See "Furniture Machinery."

Woodworking Machinery.—S. H. Mauck & Sons, Fort Ogden, Fla., want veneering machinery, lath and doweling machinery.



## TRADE NOTES.

**Iron-ore Lands.**—Jno. M. Claiborne of Rusk, Texas, wants to dispose of 2000 acres of iron-ore lands located in Cherokee county, Texas.

**Developed Water-power.**—E. E. Proctor of Wakefield, Mass., is offering for sale a valuable developed water-power (1000 horse-power) located near city of 35,000 population.

**Location for Factory.**—R. Holt Easley, Houston, Va., offers for sale, or will engage with parties for development of, water-power (750 horse-power available); also land and factory site available, especially suitable for cotton mill.

**Supplying Fernoline.**—The Summerville (S. C.) Fernoline Works is rapidly rebuilding the portions of its plant damaged by the recent fire. The company is prepared to supply its line of wood distillation products regardless of the fire.

**Manganese Plant for Sale.**—A Virginia manganese property is offered for sale by J. E. Edmunds, attorney of Lynchburg, Va. It includes 453 acres of ore, with milling machinery and other apparatus. See advertisement for further details.

**Refrigeration for Creamery.**—Messrs. Burt Smith & Co. of Brownsville, Tenn., have placed contract for refrigeration and ice factory for their creamery. The machinery will be supplied by the A. H. Barber Manufacturing Co. of Chicago. This company produces a complete line of ice, refrigerating and creamery machinery.

**Mr. John Rychen.**—Users of printing inks throughout the country will regret to hear of the death of Mr. John Rychen, which occurred at Wyoming, Ohio, on December 28. Mr. Rychen was president and treasurer of the Queen City Printing Ink Co. of Cincinnati, and as such was well known to a large circle of patrons.

**Another Busy Plant.**—Another busy plant is that of the Filer & Stowell Co. of Milwaukee, Wis. The company has its shops running day and night, and is continually refusing orders. Such busy times are caused no less by the renown of the company's product than by the prevalent activity in all lines. Engineers, machinists and founders comprise the Filer & Stowell business.

**Busy Times at Oswego.**—So busy is the Kingsford Foundry and Machine Works in every department that it has been running thirteen hours daily in the endeavor to keep pace with the incoming orders for its marine engines, centrifugal pumping machinery and marine boilers. The company's plant at Oswego, N. Y., is one of the most complete of its kind in the country.

**Thomas Carlin's Sons Incorporate.**—Messrs. Thomas Carlin's Sons of Allegheny, Pa., are giving notice to the trade that their firm has been incorporated under the name of the Thomas Carlin's Sons Co. The new corporation will continue the business as heretofore, acting as general founders, boiler-makers and machinists, etc. The company's address is now 386 River avenue.

**Spool and Bobbin Plant.**—The demand for such cotton-mill supplies as bobbins and spools is on a constant increase in the South. The erection of so many new mills is the prime factor in this increased demand. In this connection it is desired to call attention to the advertisement of the A. B. Pitkin Machinery Co. of Providence, R. I., which is offering for sale a complete bobbin and spool plant.

**Maryland Electrical Contractors.**—The annual election of officers of the Electrical Contractors Association of Maryland was held January 10, with the following result: Mr. H. K. McCay, president; Mr. Wm. H. Rose, vice-president; Mr. L. L. Kingsbury, treasurer; Mr. C. M. Morfit, 112 St. Paul street, secretary. The executive committee is composed of Messrs. John K. How, Jos. M. Zamoski and L. J. McCormick.

**Cotton-Mill Ventilation.**—Ventilation is one of the questions that enter into the construction and improvement of cotton mills, as well as other factories of various kinds. The new mill at Carrollton, Ga., has placed its order for ventilators with the National Pancoast Ventilator Co. of Philadelphia. The National Company is daily in receipt of orders for its devices for ventilation, and, moreover, will send its general manager, Mr. Joseph C. H. Hennis, through the South to more thoroughly extend the knowledge of its ventilators. A leaflet lately issued by the National Pancoast Ventilator Co. tells of

the results that have been obtained by the use of its apparatus in a number of factories, copies of the testimonial letters being presented. Main office of company is at 723 Drexel Building.

**Southern Electric Contracts.**—Among the many important modern systems that are being introduced in Southern ore mines during the present unprecedented activity is electrical machinery for lighting, for power, etc. The Rich Patch Iron Ore Co. of Low-moor, Va., and the East River Electric Co. of Bluefield, W. Va., were among those placing contracts recently for new machinery and for complete plants. The Westinghouse Electric & Manufacturing Co., Washington (D. C.) office, obtained the contracts.

**Machine-works Sale.**—Closing-out sales frequently offer opportunities to engage in manufacturing with complete established plant. One of such opportunities is contained in the advertisement of A. L. Smyth of Fort Worth, Texas. The plant he will offer on February 8 at public outcry is located in Anniston, Ala., and is known as the Barbour Machine Works. It comprises complete foundry equipment, and is an unexcelled opportunity to anyone desiring a good manufacturing plant and location in the South.

**Charles A. Moore Goes Abroad.**—Mr. Chas. A. Moore of Manning, Maxwell & Moore sailed on Tuesday last for the Mediterranean ports and Egypt. Mr. Moore is accompanied by his family, and the trip is said to be purely one of rest and recreation and no business is to be connected with it. It is doubtful if a man of Mr. Moore's prominence and individuality could be deterred while in some of the important continental countries from visiting the many famous manufacturing, iron works and machine shops, and incidentally talking business. We shall see.

**Henry Watts Merchant.**—Henry Watts Merchant of Philadelphia died at Phoenix, Arizona, last week, aged thirty-six years. Mr. Merchant was a son of Clarke Merchant, who is president of the Merchant & Co. corporation and the International Sprinkler Co. (both of Philadelphia), and he was identified in company with his father and brothers in the conduct of these two institutions. Many business men who have had the pleasure of the acquaintance of Mr. Henry Watts Merchant will regret to hear of his untimely demise, just at the time, too, when it was thought that his trip in search of renewed good health was proving a successful one.

**Anent Carborundum and Its Manufacture.** Carborundum in suitable forms for all lines of abrasive work is steadily and increasingly making its way into all the arteries of industry. This product of the Carborundum Company of Niagara Falls, N. Y., is constantly gaining new advocates and being added to the curriculum of divers manufacturing plants. The Carborundum Company is notifying its patrons in the West that the Chicago office has been removed from the Monadnock Building to 65 S. Canal street, where will be carried a complete line of goods, E. J. Eames being in charge as manager. In McClure's Magazine for January appears an article that will be of intense interest to all present and possible future users of carborundum. Under the title of "Hottest Heat" the discovery and invention of carborundum is told in the article referred to.

**An Ingenious Plan.**—An ingenious arrangement to prevent overcrowding of stairways and elevators when entering or leaving a building is used in the main office of the International Correspondence Schools, Scranton, Pa. The time of entering and leaving the building is regulated by clocks on each of the five floors. On the lower floors the clocks are set correctly, but on the upper floors they are a few minutes slow, so that employees on lower floors are at their desks before those on upper floors are due at the building. In leaving the building employees on the upper floors do not leave their desks until several minutes later than those on the lower floors. Over 500 people are employed in the building, which is used exclusively by the International Correspondence Schools. This institution has over seventy courses of instruction by mail, and its students may be found in all parts of the world.

**Improved Shafting.**—There are many important questions involved in the successful and economical operation of manufacturing plants. One of the factors that enter into this operation is that of the line of shafting installed. The Finished Steel Co. of Youngstown, Ohio, is manufacturing and offering shafting made of its metal, for which it claims some important superior merits. The permanency of the material used, its ability to withstand shock and its compactness are

among the features to which the Finished Steel Co. calls attention. The fact that so many new manufactories are constantly being erected throughout the South has prompted the Finished Steel Co. to establish an agency at Atlanta, Ga., with Messrs. V. A. Moore & Co., and detailed information can be obtained there by Southern manufacturers who may desire to fully post themselves on the superior merits of the company's product.

**Improved Lighting Supply.**—Ten years ago, when the old oil lamp was in vogue, there was, as compared with the present practice, little reading done at night by travelers. The light was so dim that reading was trying, not to say dangerous, to the eyes. With the advent of the excellent illumination given by Pintsch gas this was changed. One who travels much nowadays either smokes or reads for awhile before he retires. In the large cities where street cars are lighted with Pintsch gas the amount of reading done on these cars is enormous, and the net result to publishers must be a very considerable increase in circulation. There are Pintsch gas plants in more than fifty of the leading cities of the United States, and they supply illumination to some 2200 palace cars and over 12,000 coaches. The Safety Car Heating & Lighting Co. of 160 Broadway, New York, can furnish some interesting information anent the subject mentioned.

**Southern Students at New England Textile School.**—Wade H. Hadley, son of the treasurer of the Hadley People's Cotton Mill, Siles City, N. C., who has been taking instruction in the cotton-yarn mill superintendents' course at the New Bedford (Mass.) Textile School since its opening, will be joined in February by his brother, Fred W. Hadley, who will also take the same course of instruction. Another North Carolina student entered the school this week; he is Mr. T. G. Williamson of Asheville, N. C., recently of Spartanburg, S. C., who will also take the yarn-mill superintendents' course in the unique cotton-yarn preparation-room of the New Bedford Textile School, which is equipped with every variety of cotton-yarn-mill machinery. Southern students are very much in evidence in the New Bedford Textile School, not only attracted by the admirable equipment of the school, but probably to some extent by the fact that Mr. C. P. Brooks, its managing director, came North from Charlotte, N. C.

**Anent Light Ships.**—The national government has spent many thousands of dollars to anchor light ships off the coast of California and at the mouth of the Columbia river. It is apparent that the value of these light ships to the mariner is necessarily in bad weather, when it is stormy or foggy. The two light ships referred to both parted their chains and went astray, one going ashore and the other drifting. These disasters are caused by the light ships so tugging and straining at their chains as to either part them by grinding the links apart or by breaking with sudden jerks that prevail during stormy weather. The American Ship Windlass Co. of Providence, R. I., has in its patent automatic riding windlass a device that would avoid the troubles mentioned, so states the Commercial News of San Francisco, a leading shipping journal of the Pacific coast. This windlass would pay out the cable when the strain was great and haul it in when the strain was slackened, all done automatically.

**To Utilize Lumber-Plant Wastes.**—The wastes of lumber plants is oftentimes a source of expense and annoyance to operators of such enterprises. The utilization of such wastes has for some years been effected through processes and by means of apparatus that were comparatively expensive. Mr. Victor Lee Emerson of Ottawa, Canada (formerly of Maryland), has invented and perfected a process and appliances by which these wastes mentioned above can be successfully treated to afford a profit above the cost of their manipulation. Mr. Emerson and some associates of Canada are taking steps to put on the market this process, and are ready to receive inquiries from those interested. The complete plants installed under the new system will be for the purpose of converting sawdust, wood peat, city garbage, etc., into carbon and the formation of valuable products therefrom. Mr. Emerson can be addressed at 61 Primrose street, Ottawa, Canada, or at 420 Market street, Harrisburg, Pa.

**For Creamery and Refrigeration.**—One of many branches of industry that are continually growing in a ratio with the country's progress is that of ice-making and refrigeration. In the South especially has an increased activity in this direction been no-

ticed during the past year, and many new ice-making and refrigerating plants are now building or projected for early construction. The South cannot, as so many other sections of the country can, harvest a local crop of ice suitable for many purposes of her people, and the market for ice machinery is hence a wide and constantly-growing one there. Mr. M. H. Church has recognized the possibilities in the line referred to, and has established headquarters at 177 W. Main street, Dallas, Texas, as manager for the Southwestern office of the A. H. Barber Manufacturing Co. of Chicago. The line of machinery offered comprises every apparatus that is required in the successful and economical operation of ice and refrigerating plants, which will either be contracted for complete or otherwise, as desired. Mr. Church also offers the Barber Company's line of complete equipments for creameries—enterprises that are sure to be established largely in the South.

**Baltimore's Progressive Crockery House.**—The development of the South industrially, the increasing of population and the influx of residents that follows because of such development in turn make a demand for various articles for home use. Crockery, glassware, lamp goods, house furnishings, tinware and other miscellaneous specialties in these lines are always in demand and the trade is increasing constantly. Progressive houses aiming to secure the business resultant from this demand have been established, among them being that of Messrs. Berry Bros. & Fresch of Baltimore, Md. At 35 South Charles street they have equipped a thoroughly modern establishment, and offer a most complete line of the goods mentioned above. In addition, they have arranged for the quick delivery from England, Germany and France of porcelains, chinaware, etc., through Southern ports in special large lots. Holiday goods will be shown in large assortment. The members of this firm are all well-known business men, fully competent to afford satisfaction to their customers. C. C. Berry was for twenty years a successful merchant at Staunton, Va.; Geo. O. Fresch was for thirteen years associated with Chas. H. Torsch & Bro. of Baltimore, and H. C. Berry has for fourteen years traveled the South representing leading manufacturers and merchants. The latter's wide and satisfactory acquaintance in the South will be retained by a continuance of his visits to that section. The new firm will give special attention to the demands of the mill stores of the South. Correspondence solicited.

**Railway, Mill, Contractors' and Electrical Supplies.**—The miscellaneous supplies that are required for railways, mills, contractors and electrical concerns comprise a line of goods that are always in demand. Especially in busy times like the present do these products become in increased demand, when so many new manufactories are being erected or established ones are enlarging. In this connection it is desired to call attention to the Frank S. De Ronde Co. (successors to National Supply Co.) of 61 John street, New York city. This company offers one of the most complete lines of products that has come to our notice, and has several specialties the particular merits of which are constantly finding for them a vastly-increasing market. The line comprises roofing, paints, mineral wool, pipe covering, deadening felt, varnishes, alcohol, sal ammoniac, osokerite, etc. The Standard cold-water paint and the National wall finish are the company's especial products. These latter-named goods are of the highest possible order that the best materials and workmanship can furnish, and are used both for interior and exterior purposes; they are unexcelled as a priming coat for first-class buildings, and are largely used for both priming and second coat on the ordinary class of buildings. The paints are weather-proof and fireproof. Another specialty is the rubberoid cloth for decks, balcony floors, etc., which can be painted and will last an indefinite time. The Frank S. De Ronde Co. has established a Philadelphia branch at 43 N. Fourth street, where will be carried a full stock of sheathing paper, insulated papers of all kinds, rubberoid roofing, etc. Send for price-lists, sample cards and other detailed information.

## Coal Lands for Sale.

A gentleman, familiar with the West Virginia coal fields, wishes to be put in communication with possible purchasers for two large tracts of very desirable coal lands in that State. Upon one of these tracts, which embraces about 30,000 acres, stands one of the largest bodies of virgin timber in the Appalachian region. Address "Coal and Timber," care of Manufacturers' Record, Baltimore, Md. †



## FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

## Maryland Trust Co.

At the annual meeting of the Maryland Trust Co. of Baltimore the present officers were re-elected. Mr. J. Willcox Brown is president; Lloyd L. Jackson and Henry G. Bowdoin, vice-presidents, and J. Bernard Scott, secretary and treasurer. Messrs. Josiah L. Blackwell and George C. Jenkins were added to the board of directors. The report of the board of directors showed the total assets to be \$5,587,000. The company has declared a dividend of 3½ per cent.

## New Corporations.

H. N. Tinker is president of a banking company which will begin business at Brandon, Texas, about February 1.

The State Bank & Trust Co. is being formed at Columbia, S. C., with \$50,000 capital stock, by W. H. Timmerman and others.

The Rockingham National Bank of Harrisonburg, Va., has elected W. J. Dingledine, cashier. It is expected to begin business about March 1.

C. E. Garner is president, and P. A. Holt, secretary, of the Home Building and Loan Association, recently formed at Jacksonville, Fla., with \$500,000 capital.

It is reported that local business men are interested in forming the bank at Charles Town, W. Va., with \$50,000 capital stock. It is to be called the Citizens' Bank.

The Bank of Waldron, Ark., recently organized, is capitalized at \$50,000. T. G. Bates has been elected president; C. H. Bell, vice-president, and H. J. Hall, secretary.

A bill has been introduced into the Virginia legislature to incorporate the Southern Investment Co., with \$100,000,000 capital. Among those reported as interested are George W. Anderson and L. R. Page.

The Autauga Trust Co., recently incorporated at Pratt City, Ala., is capitalized at \$50,000. W. T. Northington is president; M. A. Graham and C. E. Thomas, vice-presidents, and Allen Northington, cashier.

A bill has been introduced in the Maryland senate to incorporate the State Bank of Maryland, with \$1,000,000 capital stock. Among the incorporators are Clayton Cannon, Thomas P. Townsend and C. H. Basshor of Baltimore.

## New Securities.

The Birmingham (Ala.) Railway & Electric Co. is considering an issue of \$3,000,000 in 6 per cent. bonds.

Messrs. Feder, Holzman & Co. of Cincinnati have secured the issue of \$25,000 in 5 per cent. bonds of Salisbury, N. C.

J. J. McHenry of Louisville, Ky., will act as agent to float an issue of bonds to be made by Allen county, in that State.

The people of Wills Point, Texas, have voted in favor of issuing \$15,000 in bonds for water works. The town clerk may be addressed.

The Galveston, Houston & Northern Railway Co. has decided to issue \$200,000 in stock and \$800,000 in 5 per cent. bonds secured by a mortgage on its property.

It is probable that the town of Berryville, Va., will again place on the market its issue of \$25,000 in bonds, as no sale has been made of them as yet. Address the town clerk.

The stockholders of the Chattanooga

Rapid Transit Co. of Chattanooga, Tenn., have decided to issue bonds to the amount of \$300,000 at 5 per cent. It is understood that the issue has been sold to parties in Philadelphia.

The Farmers and Mechanics' Bank of Columbia, S. C., has decided to increase its capital stock from \$30,000 to \$50,000. The Carolina National Bank of the same city has decided to increase its capital from \$100,000 to \$200,000.

## Dividends and Interest.

The following dividends are announced by Southern corporations in addition to those published in the Manufacturers' Record:

First National Bank, Greenville, Miss., 5 per cent.; Bank of Donaldsonville, La., 5 per cent. quarterly; Commercial and Savings Bank, Snow Hill, Md., 6 per cent.; Montgomery County National Bank, Rockville, Md., 4 per cent. semi-annual; Buckeye Loan Co., Wheeling, W. Va., 5 per cent.; National Exchange Bank, Roanoke, Va., 8 per cent. annual; Carolina National Bank, Columbia, S. C., 5 per cent. semi-annual; German National Bank, Little Rock, Ark., 5 per cent. semi-annual; Citizens' Bank, Little Rock, Ark., 5 per cent. semi-annual; Enterprise Bank, Charleston, S. C., 3 per cent. semi-annual; Milledgeville (Ga.) Banking Co., 4 per cent. semi-annual; Maury County National Bank, Columbia, Tenn., 10 per cent. annual; Third National Bank, Columbus, Ga., 7 per cent. annual; Fourth National Bank, Columbus, Ga., 3½ per cent. semi-annual; National Bank of Brunswick, Ga., \$3 per share semi-annual; Lonaconing (Md.) Water Co., 3½ per cent.; Laurens National Bank, Laurens, S. C., 3½ per cent. semi-annual; Bank of Laurens, 3½ per cent. semi-annual; People's Bank of Laurens, 5 per cent. semi-annual; Atlanta & West Point Railroad Co., 3 per cent. semi-annual; Bank of Jeannerette, La., 8 per cent. annual; Bank of Sanford, N. C., 8 per cent. annual; Baltimore & Fredericktown Road Co., one-half per cent.; First National Bank, Gallatin, Tenn., 5 per cent. semi-annual; First National Bank, Tullahoma, Tenn., 6 per cent. semi-annual; Bank of Reldsville, N. C., 6 per cent. annual; Citizens' Bank, Reldsville, 6 per cent. annual; Henderson (N. C.) Storage Co., 10 per cent. annual; Bank of Guntersville, Ala., 8 per cent. annual; American National Bank, Fort Smith, Ark., 10 per cent. annual; Bank of Terry, Tenn., 8 per cent. annual; Americus (Ga.) Grocery Co., 5 per cent. semi-annual; Chatham, Moore and Harnett Bank, Sanford, N. C., 8 per cent. annual; Boyd Fertilizer Co., Griffin, Ga., 8 per cent. annual; Merchants' Bank, Grenada, Miss., 8 per cent. annual; Bank of Lexington, N. C., 8 per cent. annual; Bank of Attalla, Ala., 6 per cent. annual; First National Bank, Newnan, Ga., 3 per cent. semi-annual; Newnan Banking Co., 3 per cent. semi-annual; Newnan National Bank, 3 per cent. semi-annual; Bank of Greenwood, S. C., 4 per cent. semi-annual; Raleigh (N. C.) Cotton Manufacturing Co., 4 per cent. semi-annual; First National Bank, Bristol, Tenn., 4 per cent. semi-annual; Dominion National Bank, Bristol, Tenn., 4 per cent. semi-annual; Raleigh Savings Bank, Raleigh, N. C., 8 per cent. annual; Norfolk (Va.) National Bank, 4 per cent. semi-annual; Norfolk Bank for Savings, 4 per cent. semi-annual; Merchants and Mechanics' Bank, Norfolk, 3 per cent. semi-annual; Baltimore Fire-Alarm Co., 1½ per cent.; Hubbard Heating Co. of Baltimore, 10 per cent. annual; St. Charles Street Railroad Co., New Orleans, La., 1¼ per cent. quarterly; Herando Insurance Co., Memphis, Tenn., 4 per cent. semi-annual; State National Bank, Memphis, 5 per cent. semi-annual; Henderson Bridge Co., Louisville, Ky., 2½ per cent. semi-annual; Union Savings Bank, Augusta, Ga., 3½ per cent.; Home Insurance Co., Memphis, Tenn., 3 per cent.; Planters' Insurance Co., Memphis, Tenn., 3 per cent.; Bank of West Point, Ga., 8 per cent. annual; Merchants and Planters' Bank, Griffin, Ga., 4 per cent. semi-annual; Traders' National Bank, Tullahoma, Tenn., 8 per cent. annual.

## Financial Notes.

The Baltimore Clearing-House Association has re-elected its present officers. Charles C. Homer is president; John B. Ramsay, vice-president, and William Winchester, secretary.

It has been discovered that the June flood in the Brazos river deepened the mouth of the river to eighteen feet at low mean tide.

## \$1 for 25 Cents.

In the last issue of the Southern Farm Magazine an offer was made to accept subscriptions received during December at twenty-five cents for the coming year instead of one dollar, the regular price. This has met with the most hearty response. Not only have individual subscriptions poured in from every direction, but a great many people, appreciating the value of the Magazine to their friends, have sent in subscriptions ranging from two copies up to fifty to be mailed to acquaintances and friends. Within two days after the issue of the December number we received the following from Wm. Bragaw & Co. of Washington, N. C.:

"Accepting your offer of subscription for the year 1900 at twenty-five cents each, we enclose herewith our check for \$12.50 to pay for fifty copies for one year, beginning with the January issue, one copy each to be mailed every month to each party mentioned on the list herein. We trust that this will be beneficial to all hands."

Mr. W. W. Smith of Glasgow, Ky., says:

"Please find enclosed \$1, for which send your magazine for the year 1900 to the following people, in accordance with your offer in the December number of your most excellent publication, and oblige an old man who is in hearty sympathy with the aims and purposes advocated by you."

Mr. D. F. De Wolf of Madison, Ga., writes:

"I have today secured six names for you, and have the money, \$1.50, and have asked each subscriber to get you names. I will also try further, and when I send other names will send the money for all."

Mr. Wm. Lott of Johnston, S. C., in renewing his own subscription sent an additional subscription under the new offer. He has two postscripts. The first reads: "Since writing the above I have secured a new subscription." The second reads: "Since writing the above I have received another subscription."

Mr. J. K. P. Jackson of Ripley, Tenn., writes:

"I am sending four subscriptions. I will try to get my neighbors to subscribe."

Mr. D. T. Lesslie of Lesslie, S. C., in sending two subscriptions adds:

"I must say that the Southern Farm Magazine is the best agricultural paper that comes to our office."

Such a warm reception has been given the offer that it has been determined to keep it open during the month of January. It will be closed on January 31. Remember the regular subscription price is \$1, but that until January 31 you and your friends can get the Southern Farm Magazine for one year for twenty-five cents each. We want you as a subscriber and want you to get your friends to subscribe, or send it to them with your compliments.

The Southern Farm Magazine is not an ordinary farm paper, but a general farm magazine dealing with the upbuilding of the South, the diversification of crops, and with every phase of Southern life. To the town and village people of the South, to the intelligent reading farmers, the Southern Farm Magazine is invaluable. Send twenty-five cents in currency or stamps for one year's subscription.

SOUTHERN FARM MAGAZINE,  
Baltimore.  
Published by  
Manufacturers' Record Publishing Co.

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The Pennsylvania Railroad Co. announces the following personally-conducted tours for the season of 1899 and 1900:	
Mexico and California.—A 45-day tour will leave Baltimore February 13. Fourteen days will be spent in Mexico and eighteen in California. The party will travel over the entire route by the "Mexico and California Special," the finest train that crosses the continent.	
Florida.—Four tours to Jacksonville will leave Baltimore January 23, February 6 and 20 and March 6. The first three of these admit of a sojourn of two weeks in the "Flowery State." Tickets for the fourth tour will be good to return by regular trains until May 31, 1900.	
Tickets for the above tours will be sold from all principal points on the Pennsylvania Railroad. For detailed itineraries, giving rates and full information, address B. Courlander, Jr., passenger agent Baltimore district, Baltimore, or Geo. W. Boyd, assistant general passenger agent, Philadelphia.	



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